

STN - TECHNICAL FILES

(FILE 'HOME' ENTERED AT 13:47:03 ON 14 SEP 2001)

FILE '1MOBILITY' ENTERED AT 13:47:13 ON 14 SEP 2001

L1 59857 SEA VEHICLE? OR AUTOMOBILE? OR AUTOMOTIVE OR CAR OR CARS OR  
TRUCK# OR SUV OR SUVS OR VAN OR VANS  
L2 1313 SEA ACCESSOR? OR OPTIONS OR OPTIONAL(3W) (EQUIPMENT OR FEATURE?  
OR PACKAGE?) OR EQUIPMENT(2W) PACKAGE?  
L3 2735 SEA PREVIEW? OR VISUAL? OR TRY?(2W)OUT OR (DISPLAY? OR SHOW?  
OR DEPICT? OR SEE# OR SEEING) (3A) (APPEAR? OR INSTALL? OR  
IMAGE? OR PICTURE? OR GRAPHIC? OR LOOK? OR REPRESENTATION?)  
L4 1171 SEA (SELECT? OR PICK? OR LIST? OR MENU? OR (PULL OR DROP) (W) DOW  
N OR CHOOS? OR CHOSE?) (7A) (MAKE# OR MODEL# OR VEHICLE# OR  
ACCESSOR? OR PARTS OR STYLE)  
L5 0 SEA L1(10A)L2 AND L3 AND L4  
L6 0 SEA L1 AND L2 AND L3 AND L4  
L7 17 SEA L1(10A)L2 AND (L3 OR L4)  
L\*\*\* DEL 0 S L7 NOT 200-2001/PY  
L8 16 SEA L7 NOT 2000-2001/PY  
D L8 TI, KWIC 1-2  
L9 7 SEA L8 AND (INTERNET? OR KIOSK? OR ONLINE OR ON LINE OR WEB OR  
WEBPAGE? OR WEBSITE? OR AUTOMATE? OR ELECTRONIC? OR VIRTUAL?  
OR DIGITAL? OR DATABASE? OR DATA BASE# OR SOFTWARE)  
D L9 BIB, ABS 1-7

FILE HOME

FILE 1MOBILITY

FILE COVERS 1906 TO 30 Aug 2001 (20010830/ED)

1MOBILITY and 2MOBILITY, which together comprise the Global Mobility  
Database, can be accessed and searched together through the file  
cluster MOBILITY. Type FILE MOBILITY to enter this cluster.

=>

L9 ANSWER 1 OF 7 1MOBILITY COPYRIGHT 2001 SAE  
AN 96:4677 1MOBILITY  
DN 961762  
TI Mechatronic designs for a computer controlled all-terrain vehicle  
AU Mistry, Sanjay I. (John Deere Product Engineering Center); Buster, David L. (3M Co.); Thate, Jeff M. (University of Missouri-Columbia); Eubanks, Mark (University of Missouri-Columbia); Nair, Satish S. (University of Missouri-Columbia)  
SO (1996 Aug) . Society of Automotive Engineers, Inc., Warrendale, Pennsylvania, USA.  
Meeting Info.: SAE International Off-Highway and Powerplant Congress and Exposition. Indianapolis, Indiana, USA. 1996 Aug 26 - 1996 Aug 28.  
CY United States  
DT Conference Article; (Technical Paper)  
FS SAE  
LA English  
AB Novel mechatronic designs for the automation and control of an all-terrain vehicle for operation by a C-5/6 quadriplegic are described. As part of a project at the University of Missouri, a Kawasaki Mule 2010 all-terrain vehicle was purchased and fully **automated** and interfaced with a computer for control, using novel automation designs. This computer controlled all-terrain vehicle (CCATV) is primarily intended to be used for recreational off-road locomotion. A 'drive-by-wire' computer control system has been designed, tested, and installed on a utility vehicle and delivered to the sponsor. A very user-friendly and high-tech control panel was developed with 2 joysticks, 15 push buttons and 3 LCD displays for interfacing with the CCATV systems.  
The subsystems that were added or **automated** include the computer subsystem; sensors; control panel; power subsystem; steering subsystem; throttle/brake subsystem; gear shifting subsystem; parking brake subsystem; the three vehicle settings high/low speed, differential lock/unlock and 2/4 wheel drive; interface subsystem and **accessories**. The major design issues included the **selection** of the **vehicle** features to be **automated** and their design; actuation strategies for the subsystems; control techniques; computer selection, and power system selection. Issues in ergonomics, ruggedness, reliability and safety were also of considerable significance in the design.  
A unique feature of the automation design is the provision for manual mode of operation. That is, each subsystem has been **automated** such that the automation design does not interfere with the original vehicle subsystems. An auto/manual toggle switch is provided so that whenever needed, an able-bodied person can drive the CCATV in its original, off-the-factory mode. This feature considerably complicated the overall design since reliability could not be compromised. The mechatronic designs reported have potential applications to several areas in addition to that for the disabled operator reported here.

L9 ANSWER 2 OF 7 1MOBILITY COPYRIGHT 2001 SAE  
AN 95:5033 1MOBILITY  
DN 943517  
TI Modern vehicles - modern equipment. **Automated** jet-nozzle cutting for interior trim parts  
AU Sapranides, M. (ABB Robotique)  
SO (1994 Dec) . Societe des Ingenieurs de l'Automobile, Paris, France.  
Meeting Info.: Plastics and Automobile Cabin Components. Paris, France. 1994 Dec 07 - 1994 Dec 08.  
CY France  
DT Conference Article; (Technical Paper)  
FS SIA  
LA French  
AB In order to continue expanding in a competitive environment, automobile manufacturers must increasingly adapt quickly to market needs. Their **line of vehicles** is broken down into models, versions,

and **options** to correspond to the various segments of the population. Thus, each individual may **choose a vehicle** based on his or her lifestyle.

In this environment, the means of production must allow for an increasingly rapid response while limiting investment. For this reason, most European equipment manufacturers use **automated** jet-nozzle cutting for vehicle interior trim parts.

The chief vehicle interior trim parts that are jet-nozzle cut are: floor mats; trunk mats and trim; door panel; body sealing trim; dashboard; rear shelf; and soundproofing.

**Automated** jet-nozzle cutting, which appeared at the beginning of the 1980s, has today evolved into standardized systems that perform very well and are reliable. This paper presents four pieces of equipment that constitute a **line** of products: the original cutting-box, small part cutting-box, cutting-box process machine, and tunnel cutting-box. New generation robots allow significant reduction in cycle time, while ensuring an excellent level of quality, especially for circle cutting. The cost of an **automated** jet-nozzle cutting cell has fallen considerably in recent years.

**Automated** jet-nozzle cutting offers the following unquestionable advantages: modifications to the cutting trajectories; the production of several different parts using a single machine; a minimum investment required for putting a new, additional part into production; a smaller footprint, especially for the replacement parts market; production of pre-series using the final means of production; several solutions proposed to automobile manufacturers at the time of the pre-series; and very rapid development of new parts.

Generally speaking, robotics is used for other applications in vehicle interior trim parts production, such as dashboard paint and dashboard foam.

L9 ANSWER 3 OF 7 1MOBILITY COPYRIGHT 2001 SAE

AN 92:2577 1MOBILITY

DN 921123

TI TRIALSS-tool for rapid and intelligent advanced life support system selection and sizing

AU Doll, Susan(Boeing Defense and Space Group); Tillotson, Brian(Boeing Defense and Space Group)

SO (1992) . Published by Society of Automotive Engineers, Inc., Warrendale, Pennsylvania (USA).

CY United States

DT Conference Article; (Technical Paper)

FS SAE

LA English

AB Life support systems (LSS) will be needed for all manned space missions and include such diverse applications as transportation **vehicles**, surface habitats, and rovers. **Selecting** an optimal LSS for a particular mission is the task of life support systems analysis, which must derive parameteric values (e.g. power consumption, mass and volume) for the different possible LSS configurations. The task is labor intensive and time consuming, due to the many possible levels of life support system closure, the many available life support technologies, the equally large number of potential mission applications, and the complexity of system interactions. This paper describes TRIALSS (tool for rapid and intelligent advanced life support system **selection** and sizing), a tool which **makes** use of modern **software** technology to assist in the LSS analysis process. TRIALSS has an icon-driven, user friendly interface which allows the user to select from several physical/chemical LSS technologies. It displays power, mass, and volume at system, subsystem, and assembly levels. A unique feature of TRIALSS is the ability to easily vary mission parameters including crew size, mission duration and location, power and thermal control system technologies, pressurized volume construction, and launch and transportation **vehicle options**. A powerful development environment, G2, allows the programmer to make rapid changes or additions and to

incorporate rules to help the user avoid pitfalls. An example analysis for lunar applications shows the importance of mission context for system-level analysis and demonstrates the utility of TRIALSS in enabling such analyses.

L9 ANSWER 4 OF 7 1MOBILITY COPYRIGHT 2001 SAE  
 AN 91:480 1MOBILITY  
 DN 910553  
 TI Design concept of magnesium accessory drive brackets  
 AU Nassar, Alexander(Jeep and Truck Engrg., Chrysler Motors Corp.)  
 SO (1991) . Published by Society of Automotive Engineers, Inc., Warrendale, Pennsylvania (USA).  
 Meeting Info.: SAE International Congress and Exposition. Detroit, Michigan, USA. 1991 Feb 25 - 1991 Mar 01.  
 CY United States  
 DT Conference Article; (Technical Paper)  
 FS SAE  
 LA English  
 AB Chrysler Jeep and **Truck** Engineering Division has developed a new **accessory** drive system for the 2.5L and 4.0L in-line engines. This system was designed to comply with program management assumptions which were set to meet customer needs and satisfy government requirements. The design objectives dictated a lightweight and cost efficient engine without compromising its quality or durability. These objectives were achieved by introducing magnesium as a replacement to aluminum in the engine **accessory** drive mounting brackets. The **selection** was based on strength-to-weight ratio, weight reduction, durability, corrosion performance, prototype requirements, and cost efficiency.

L9 ANSWER 5 OF 7 1MOBILITY COPYRIGHT 2001 SAE  
 AN 86:839 1MOBILITY  
 DN 861110  
 TI DDEC II advanced **electronic** diesel control  
 AU Hames, Richard J.(Detroit Diesel Allison Div., General Motors Corp.);  
 Hart, David L.(Detroit Diesel Allison Div., General Motors Corp.);  
 Gillham, Gregory V.(Detroit Diesel Allison Div., General Motors Corp.);  
 Weisman, Steve M.(Detroit Diesel Allison Div., General Motors Corp.);  
 Peitsch, Bernd E.(Detroit Diesel Allison Div., General Motors Corp.)  
 SO (1986) . Published by Society of Automotive Engineers, Inc., Warrendale, Pennsylvania (USA).  
 Meeting Info.: SAE West Coast International Meeting. Universal City, California, USA. 1986 Aug 04 - 1986 Aug 07.  
 CY United States  
 DT Conference Article; (Technical Paper)  
 FS SAE  
 LA English  
 AB DDEC II (Detroit Diesel **Electronic** Control) is an advanced technology **electronic** fuel injection and control system for diesel engines. New technologies in microprocessor **electronics** are used, allowing a fuel-cooled engine mounted design. The DDEC II design provides expanded capabilities with improved performance, and benefits in both cost and reliability. This system, using the new GMSCM (General Motors Single Chip Microprocessor), has increased computational speed for enhanced engine governing, on-chip functions for expanded diagnostics and communications, and I/O to meet current and future needs.  
 EEPROM is used in end-of-line programming of basic engine ratings and customer-**selected options**. Engine power derating and modification of **vehicle** application **options** are also provided. Industry standardized 9600 Baud serial data links provide two-way communications with vehicle displays, diagnostic equipment, and other vehicle systems.

L9 ANSWER 6 OF 7 1MOBILITY COPYRIGHT 2001 SAE



STN - TECHNICAL FILES

AN 86:808 1MOBILITY  
 DN 861049  
 TI DDEC II advanced design diesel control  
 AU Hames, Richard J. (Detroit Diesel Allison Division, GMC); Hart, David L. (Detroit Diesel Allison Division, GMC); Gillham, Gregory V. (Detroit Diesel Allison Division, GMC); Weisman, Steve M. (Detroit Diesel Allison Division, GMC); Peitsch, Bernd E. (Detroit Diesel Allison Division, GMC)  
 SO (1986) . Published by Society of Automotive Engineers, Inc., Warrendale, Pennsylvania (USA). Also published in: P-183.  
 Meeting Info.: International Congress on Transportation Electronics. Dearborn, Michigan, USA. 1986 Oct 20 - 1986 Oct 22.  
 CY United States  
 DT Conference Article; (Technical Paper)  
 FS SAE  
 LA English  
 AB DDEC II (Detroit Diesel **Electronic** Control) is an advanced technology **electronic** fuel injection and control system for diesel engines. New technologies in microprocessor **electronics** are used, allowing a fuel-cooled engine-mounted design. The DDEC II design provides expanded capabilities with improved performance, and benefits in both cost and reliability. This system, using the new GMSCM (General Motors Single Chip Microprocessor), has increased computational speed for enhanced engine governing, on-chip functions for expanded diagnostics and communications, and I/O to meet current and future needs. EEPROM is used in end-of-line programming of basic engine ratings and customer-**selected options**. Engine power derating and modification of **vehicle application options** are also provided. Industry standardized 9600 Baud serial data links provide two-way communications with vehicle displays, diagnostic equipment, and other vehicle systems.

L9 ANSWER 7 OF 7 1MOBILITY COPYRIGHT 2001 SAE  
 AN 75:4 1MOBILITY  
 DN 750005  
 TI A study of technological improvements in automobile fuel consumption  
 AU Hurter, David A. (Arthur D. Little, Inc.); Lee, W. David (Arthur D. Little, Inc.)  
 SO (1975) . Published by Society of Automotive Engineers, Inc., Warrendale, Pennsylvania (USA).  
 Meeting Info.: Automotive Engineering Congress and Exposition. Detroit, Michigan, USA. 1975 Feb 24 - 1975 Feb 28.  
 CY United States  
 DT Conference Article; (Technical Paper)  
 FS SAE  
 LA English  
 AB A study was conducted to determine the potential reduction in automotive fuel consumption based on the use of innovative systems and improved components. Technological areas investigated were: spark ignited engines with and without turbocharging, **electronic** feedback controlled fuel injection with dual bed catalytic converters, stratified charge combustion, light weight diesels, lock-up torque converters, continuously variable ratio transmission, tires aerodynamic drag, **vehicle** weight, engine **accessories** and **optional equipment**.  
 Standard and compact-size 1973 **model year vehicles** were **selected** for analysis using a computer-simulation program to predict fuel usage and performance with and without incorporation of the improvements. In addition estimates were made as to whether modified vehicles complied with study constraints such as emission, safety, noise and user requirements. Cost effectiveness, manufacturing adaptability and probable time frame for introduction of improvements were also estimated. The study results indicated that the goal of 43% improvement in fuel economy (mpg), or 30% reduction in fuel usage (gpm) of a 1973 model year compact and standard size vehicle could be attained on a mass produced

STN - TECHNICAL FILES

scale by the early 1980s.

=>

1970.

31 Anderson, P. F. and Chambers, T.M., "A Reward/Masurement Model of Organisational Buying Behaviour", Journal of Marketing, Vol. 49, 1985, pp. 7-23.

32. Hakansson, H. (Ed.), International Marketing and Purchasing of Industrial Goods, Wiley, Chichester, 1982.

Mark Lillie is a graduate of the Department of Marketing and Leigh Sparks is a Professor of Retail Studies at

THIS IS THE FULL-TEXT. Copyright MCB University Press Ltd 1993  
GEOGRAPHIC NAMES: Scotland

DESCRIPTORS: Freight forwarding; Models; Air freight service; Decision making; Purchasing; Behavior; Studies

CLASSIFICATION CODES: 8350 (CN=Transportation industry); 9175 (CN=Western Europe); 2500 (CN=Organizational behavior); 9130

4/9/5 (Item 5 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

00588689 92-03862

How Lockheed Implemented CIM

Howery, C. Kenneth; Bennett, Earl D.; Reed, Sarah

Management Accounting v73n6 PP: 22-28 Dec 1991 CODEN: MGACBD ISSN:

0025-1690 JRNL CODE: NAA

DOC TYPE: Journal article LANGUAGE: English LENGTH: 7 Pages

SPECIAL FEATURE: Charts

WORD COUNT: 3352

ABSTRACT: Lockheed Missile & Space Company Inc., Austin (Texas) Division, is one of the companies that has implemented an MRP II system as the key component of computer-integrated manufacturing (CIM). The implementation took more than 4 years and required a \$5-million investment in software and hardware. Lockheed's approach to assembling a project team is a good model for this first step in implementation. The major responsibility for defining detailed system specifications, developing user manuals, and the like fell upon representatives from manufacturing, materiel, and product assurance. The company's experience shows that a successful implementation requires: 1. a well-informed and actively involved management group, 2. education and training, 3. a strong project manager with the skills and authority to make things happen, and 4. adequate staffing of the project team with committed and capable personnel.

TEXT: The 1980s saw an explosion in the use of computers in manufacturing, especially in integrated manufacturing resource planning systems, commonly referred to as MRP II systems. One estimate of total expenditures just on MRP II software in 1991 is \$2 billion.(1) Most manufacturers today generally spend between 1% to 3% of sales on information systems, and one of the largest single expenditures is likely to be for the MRP II software and its implementation. Based on these figures, one can see that managing this expenditure is critical to a company's competitiveness.

Lockheed Missile & Space Company, Inc., Austin Division (LAD) was one of the companies that implemented an MRP II system as the key component of computer-integrated manufacturing (CIM). It took more than four years and required a \$5 million investment in software and hardware. At times the process seemed overwhelming, but Lockheed says its business would have been doomed without it.

#### A MELTING POT OF SYSTEMS

Lockheed Austin Division was formed in August 1981 by Lockheed Missiles & Space Company, Inc., based in Sunnyvale, Calif., to develop military tactical support systems. Headquartered in Austin, Texas, LAD began operations in June 1982 with 30 employees. By year-end, 700 people were on the payroll. Approximately half had been transferred from within Lockheed's other divisions, and half had been hired locally in Austin. The majority were scientists or engineers who were staffing LAD's initial development project, the Command Support Program, which involved the development of a software and communications system for the U.S. Navy to collect, process, and update surveillance data from multiple sources.

In 1983, another 175 people were transferred from Sunnyvale. By mid-1984, Lockheed Austin Division employed 2,000 people and, in addition its other diverse projects, had become the base of operations for the U.S. Air Force

Precision Location Strike System, which used a computerized system on board three aircraft to locate enemy radar and provide essential targeting data to direct strike aircraft with guided or free-fall weaponry.

LAD had become a melting pot of people, projects, and systems. Unfortunately, the systems weren't integrated so if a worker in one department had a question about another part of the operation, he had to go to several other departments for answers--there was no one system that allowed everyone access to the same information. Also, most of the systems being used in Austin were based in Sunnyvale, so Austin had little say over corporate changes nor could it even operate if the Sunnyvale computers weren't up and running! The two-hour time difference meant Sunnyvale had to get its systems going two hours earlier to match Austin's operating schedule. Because of this environment, Austin could not predict when it was going to deliver its products, it had problems meeting schedules and budgets, and it was about to lose its competitive position in the marketplace.

At this point LAD management stepped in, formed a team to study the situation, and proceeded with a project that led to a computer-integrated Operations Support System (OSS) where in all areas of Lockheed Austin Division could communicate electronically. The team used a hierarchical approach to decompose the business processes by function. Starting at a high level, major processes were exploded to lower levels of detail to discover, document, and review information needs. The results of the analysis were captured on a PC-based CASE tool. Analyses were developed for all functions within manufacturing and all functions interfacing with manufacturing. Transaction volumes were accumulated for data entry and output points. This information served as the foundation for subsequent activity.

#### PLANNING FOR SUCCESS

Installing an integrated manufacturing business system is more difficult than many companies expect. Fortunately, a number of factors can improve the odds for success.

Management involvement is one. It is critical in a project of this nature. Many issues cross department boundaries, and their resolution requires management attention. Also, the expenditures required to install a system successfully are too great for a project to succeed without executive support.

Adequate education and training are mandatory with any new system, but they are critical with integrated MRP II systems. Shop floor transactions create accounting entries, and simple mistakes by one clerk can cause significant problems in another department. Recurrent and new-hire training also must be planned as an on-going expense for the life of the system.

The personality and strength of the project manager and team members are critical to the success of the implementation process. The project members must be strong and respected individuals. They must work well together, and collectively they must understand how the business operates. Perhaps even more important, the project team needs to have the willingness to make a decision and proceed. Universally they should be unafraid of change and be willing to make necessary changes for the good of the corporation.

Lockheed had this corporate commitment--from the top down--to move ahead with the project as quickly as possible and with no tolerance for anything less than a complete success. Lockheed Austin Division's MRP II experience contained many firsts--the first-time use of the computer hardware to support all manufacturing operations, the first application of the vendor's MRP II software in a defense industry environment, and a first-time experience for many of the members of the LAD project team. Despite these additional risks, LAD's corporate commitment was adequate to meet the challenge.

## STARTING THE PROJECT

The first step was assembling the project team. Lockheed's approach is a good model. The major responsibility for defining detailed system specifications, developing user manuals, designing training programs, devising acceptance test procedures, and creating implementation schedules fell upon representatives from manufacturing, materiel, and product assurance. The member from data processing was responsible for developing acceptance test procedures, writing the system user manuals, providing data processing training, creating requirement specifications, and interfacing with the vendor. The data input functional area provided general administrative support, as well as word processing, Artemis scheduling, and data entry services. Program controls personnel monitored the project activity and developed project reviews. Representatives from logistics, finance, engineering, human resources, and management controls were expected to interface with the project team and provide timely inputs for defining system requirements so that future interface problems could be avoided. Clearly it was not just an MIS project. The team represented operational functions that would be affected directly by whatever hardware and software selections were made.

A company could shorten this process through the use of experienced consultants or canned checklists as prompts. At Lockheed, the extra time taken was valuable because it was during this phase of the project that the team participants began to develop a common vision of what they needed and what key issues had to be addressed.

## COSTS VS. BENEFITS

Typically a cost-benefit analysis is required before a company proceeds with a project of this nature. The analysis usually begins early in the project and is refined as more accurate data become available. Lockheed costs were developed from preliminary discussions with vendors, information systems personnel, and/or consultants. One-time cost components included:

- \* Hardware;
- \* Operating system, applications, and utility software;
- \* Modification and enhancements;
- \* Interface construction;
- \* Package training;
- \* Generic education;
- \* Travel;
- \* Internal staff time;
- \* Outside assistance;
- \* Telecommunications charges;
- \* Facilities;
- \* Cabling.

Recurring costs included:

- \* Hardware maintenance,
- \* Software maintenance,
- \* Telecommunications,

- \* Support staff, and
- \* Training.

Hardware and software can be priced accurately early in the project, but estimating staff costs is more difficult. One key is a good project work plan. If the work plan is broken down to a low level of detail, total hours can be estimated. It is important to assign all tasks to individuals. Staff overloads then become apparent, and corrective action can be taken before schedules slip. It also is best to calculate a range of costs, which increases the probability that the final outcome will be within budget and which emphasizes to management the difficulty of preparing an exact cost estimate.

Once Lockheed Austin Division had decided to proceed with the operations support system project, its project team prepared a statement of work, which outlined the tasks to be performed by vendors in preparing a price quotation and an installation schedule estimate and included details of the manufacturing and systems interface requirements. It consisted of about 75 pages of requirements for the operations system and approximately 90 pages of specifications for corporate financial interface requirements.

One project team member explained: "The objective was to turn out a statement of work in three months--November, December, and January--starting with everything we learned in the summer about what we wanted in a total system, and looking at what was being used by other defense contractors or manufacturers, to develop specific systems requirements that could be sent out to software vendors as an RFP (request for proposal)." For example, interfaces would be needed to feed the operations system with input such as work orders, budgets, work authorizations, employee status data, job information, and configuration requirements. At the same time, interfaces would be needed for outputs from the operations system that supported other corporate systems such as time-card and inventory data for finance, attendance for personnel, purchase order information for materiel, and work orders and journal vouchers for accounting.

Most professionals suggest that the software should be selected first and then the best computer hardware that supports the software. This idea oversimplifies what can be a complex issue, especially in larger organizations where the cost of a new computer hardware environment can be so large that it cannot be considered. Lockheed Austin Division's experience was similar. After visiting about 15 companies and examining approximately 30 software packages, management decided that Lockheed should select the hardware first. It was using Tandem hardware for factory floor data collection but IBM hardware for the operations systems. The project team wanted to continue to use Tandem for the factory floor, which meant that the software selection process was narrowed considerably--to vendors who had computer-integrated manufacturing software that could run on Tandem hardware. Also, the software would have to interface Tandem and IBM hardware.

#### DIVISION/CORPORATE SYSTEMS INTERFACE

Corporations have their own unique accounting policies and procedures, and defense contracting has even more complex requirements, with federal approval required before significant changes can be made to any cost accounting practices. Most companies are trying to simplify their accounting systems and move away from tracking direct labor, but defense contractors, such as Lockheed, can do so only if they convince their government contract officials that the government's interest will be protected and that compliance with all regulations will be ensured.

Most of the Lockheed operating systems were IBM-based except for the use of Tandem hardware for factory floor data collection. These external systems provided inputs to LAD's new operating system, and outputs of the operation

support system fed existing corporate external systems. Accurate and dependable interfaces with these IBM-based external systems were critical if the software was to meet corporate reporting and accounting requirements effectively. Lockheed Austin Division's interfacing requirements were developed after the company compared the financial systems function and data requirements with the manufacturing function and requirements.

Figure 1 (Figure 1 omitted) illustrates a high-level schematic of the financial system, and Figure 2 (Figure 2 omitted) explodes "Work Package Planning" into a more detailed presentation of systems requirements. When it finally was implemented, the LAD system contained these modules:

Operations Modules--Material Inventory Control, Manufacturing Accounting, Product Assurance, Time and Attendance, Shop Floor Control, and Order Management.

Planning Modules--Materials Requirements Planning, Master Production Scheduling, Capacity Planning, and Simulation Planning.

Database Modules--Facilities, Manufacturing Bill of Materials, and Item Master.

#### SELECTING A SOFTWARE VENDOR

It is a general practice to describe the **selection criteria** in a request for **proposal** (RFP) and ask the vendors to respond to them. Most companies follow this approach, and usually it produces a quality **selection**. Without the proper perspective, however, the team may tend to focus on the laundry list of detailed requirements and underemphasize the strategic considerations of technology and **vendor** organization. See the software **buyer's** action list for suggestions.

Lockheed's team prepared **selection criteria**, evaluation **criteria**, and summary evaluation sheets for the software packages to be evaluated by the **selection** committee. LAD developed a complex scoring system, which included blind scoring so no team member could be influenced by a vendor name. Considering the potential for biased decision making or political infighting, this type of **selection** process is appropriate but seldom employed. Its use should be encouraged.

#### SYSTEM IMPLEMENTATION

The system implementation process was scheduled to span 30 months--June 1985 to January 1988. Key features of the implementation plan were:

1. Install software--Lockheed planned to prepare detailed specifications for the software package immediately after the software contract was awarded so LAD could determine where existing modules could be modified to meet detailed requirements and to pinpoint where new modules must be developed. At the same time, Lockheed information systems personnel created the necessary interfaces.
2. Pre-pilot test--As pieces of the software system were delivered, the project team conducted a conference room pilot test. A list of all the possible activities was generated, systems testing was performed, and the results were evaluated to see if any systems modifications had to be made.
3. Live pilot test--After the project team completed the conference room pilot, it conducted a hands-on live pilot test on a small project in one work center. The team gathered factory floor data, performed tests, and evaluated the results to ascertain if any system modifications were necessary.
4. Initialize and load master files--Prior to cutting away from the old system entirely, the team had to initialize and load into the operations support system the master files and other pieces needed to check shop orders. The old and new systems then ran concurrently for a period of time.



5. Volume test--After all master files and existing data were loaded, extensive tests were run employing large numbers of transactions so that system performance under stress could be evaluated. Shop floor control, time and attendance, and material inventory control system results were studied in detail, and potential problem areas were alleviated before LAD cut over to the new system.

6. Training--Simultaneously with the systems implementation and testing, training sessions were developed and conducted for all employees affected by the new system. Training included an overview of the entire package followed by in-depth, hands-on instruction so that all personnel obtained explicit knowledge about the module with which they would be dealing and an understanding of how the different modules were tied together.

7. Phase-in/cutover--Alternative plans were evaluated, from an abrupt cutover of all software modules simultaneously to a modular phase-in of each module individually. After the plan was implemented, system responsibility was turned over to the operating staff.

As the implementation process began, issues and problem areas appeared such as incomplete software modules, differences in interpretation of requirements, timetable pressures, and technical problems.

The strength of the project manager and the commitment of the project team compensated for these problems. For instance, "Our team approach may have been unique. We worked in a large room around a long table. We'd have about 30 people meeting...at 7:30 a.m. each day to see where we were in all of our activities and again near the end of the day. If we needed to get people together to resolve an issue during the day, we did. We operated in our own world and outside the normal corporate bureaucracy. We'd hammer out decisions at our roundtable that would take months through normal channels."

In another case, "About a third of the people initially assigned to our team were sent back to their respective organizations. We wanted only dedicated, enthusiastic people who believed they could get the job done. We had a short-term project. We didn't have time to train or mold people. The success of the project depended on the people. The organization gave their best people. We were totally committed to the project."

Members of the LAD project team also attributed the success of their project to good education and training for the duration of the project and to active management involvement. For example, when the project was started, a seminar was held for all managers, directors, and vice presidents at LAD to explain the software and the way the systems would operate. Corporate personnel also kept a close watch on the operation even though it was the Austin Division's project. About 500 people were trained on the system, ranging from a systems overview lecture to daily classes for several weeks to hands-on experience at the terminals.

To smooth the transition, Lockheed relied heavily on its vendors. The hardware representative even helped resolve some of the more difficult points in the software development. Both the hardware and software vendors provided resources to the project team. Much of this assistance was in the form of on-site support and development in Austin, which greatly enhanced the project team's responsiveness to problems.

In addition, weekly status reports and meetings for active participants increased good communication. Monthly briefings and/or reports to top executives helped raise crucial issues before they impacted schedules. Updates of a project plan, although tedious, were made promptly. Monthly briefings included accomplishments since the last monthly report; a schedule of upcoming meetings to be held; identification of the top 10 problems, action requirements, and designated responsibilities (as a problem was resolved, it was dropped from the review list and a new one added); and schedule and budget reviews. This project reporting and control

was vital.

#### ASSESSING THE RESULTS

When the implementation process was complete, the system performed the functions diagrammed in the Systems Overview shown in Figure 3 (Figure 3 omitted). LAD employees are enthusiastic when they say that the project has been successful and that the system is serving their needs well. Perhaps the project could have been implemented quicker, but it was installed on time and under budget without the mid-life crisis these projects sometimes go through. Here are some of the accomplishments Lockheed says it experienced:

- \* Paperless and real-time aspects of the system for the quality assurance group. Where once the group had to document rejects or product defects with hard copy, now it is done electronically. Employees in engineering, quality assurance, or manufacturing--and even customers--can look information up on their computer terminals.

- \* Government approvals to use electronic sign-off for payroll processing and payment (but it still has to produce a hard copy and have supervisors and employees sign them for the finance department).

- \* Ability to meet delivery schedules 95% to 100% of the time, compared to 50% to 60% before the new system was implemented.

- \* Ability to meet delivery commitments. Lockheed also experienced some labor savings, such as cutting labor costs by about 22% in the manufacturing coordination and support area by not replacing attrition losses. Productivity increased, too, once employees learned the new system.

What lessons should other companies learn from Lockheed Austin Division's experiences? A successful implementation requires a number of ingredients, namely a well-informed and actively involved management group, education and training, a strong project manager with the skills and authority to make things happen, and adequate staffing of the project team with committed and capable personnel.

Although significant time and resources continue to be devoted to satisfying corporate financial reporting requirements, the system provides division-level management with more information--including cost data--than was available before. It is a real-time integrated system that provides opportunities for better operating controls, including checking data across the entire company rather than just receiving reports. Now minute by minute, day by day, hour by hour, someone can check on a project or employee data any time during the process, not just once a week or once a month. This up-to-the-minute reporting ability makes Lockheed able to react immediately to any kind of situation that arises.

Ken Howery is a partner in the Houston office of Ernst & Young, responsible for manufacturing systems and CIM consulting.

Earl Bennett is a former professor of accounting at Texas A&M University.

Sarah Reed is an associate professor of accounting at Texas A&M.

(1) Gartner Group research, 1991 (unpublished).

(Software Buyer's Action List omitted)

THIS IS THE FULL-TEXT. Copyright National Association of Accountants 1991  
COMPANY NAMES:

Lockheed Missiles & Space Co Inc (DUNS:00-912-5535)

GEOGRAPHIC NAMES: US

DESCRIPTORS: Case studies; Defense industry; CIM; Implementations;  
Corporate planning; Benefit cost analysis

CLASSIFICATION CODES: 9110 (CN=Company specific); 8680 (CN=Transportation  
equipment industry); 5240 (CN=Software & systems); 9190 (CN=United  
States)

SYSTEM:OS - DIALOG OneSearch

File 15:ABI/Inform(R) 1971-2001/Jul 14  
(c) 2001 ProQuest Info&Learning  
File 9:Business & Industry(R) Jul/1994-2001/Jul 12  
(c) 2001 Resp. DB Svcs.  
File 623:Business Week 1985-2001/Jul W3  
(c) 2001 The McGraw-Hill Companies Inc  
File 810:Business Wire 1986-1999/Feb 28  
(c) 1999 Business Wire  
File 275:Gale Group Computer DB(TM) 1983-2001/Jul 12  
(c) 2001 The Gale Group  
File 624:McGraw-Hill Publications 1985-2001/Jul 12  
(c) 2001 McGraw-Hill Co. Inc  
File 636:Gale Group Newsletter DB(TM) 1987-2001/Jul 13  
(c) 2001 The Gale Group  
File 621:Gale Group New Prod.Annou.(R) 1985-2001/Jul 13  
(c) 2001 The Gale Group  
File 813:PR Newswire 1987-1999/Apr 30  
(c) 1999 PR Newswire Association Inc  
File 16:Gale Group PROMT(R) 1990-2001/Jul 13  
(c) 2001 The Gale Group  
File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group  
File 148:Gale Group Trade & Industry DB 1976-2001/Jul 13  
(c)2001 The Gale Group  
File 20:World Reporter 1997-2001/Jul 14  
(c) 2001 The Dialog Corporation  
\*File 20: Duplicate Detection is currently not working in file 20  
File 348:EUROPEAN PATENTS 1978-2001/JUL W02  
(c) 2001 European Patent Office  
File 349:PCT Fulltext 1983-2001/UB=20010705, UT=20010628  
(c) 2001 WIPO/MicroPat  
File 625:American Banker Publications 1981-2001/Jul 12  
(c) 2001 American Banker  
File 268:Banking Info Source 1981-2001/Jul W2  
(c) 2001 ProQuest Info&Learning  
File 626:Bond Buyer Full Text 1981-2001/Jul 12  
(c) 2001 Bond Buyer  
File 267:Finance & Banking Newsletters 2001/Jul 11  
(c) 2001 The Dialog Corp.  
\*File 267: See HELP NEWS 267 for a list of journals  
and dates they will not publish in 2001.  
File 139:EconLit 1969-2001/Jul  
(c) 2001 American Economic Association

Set Items Description

---  
? PROPOSAL(S) (CUSTOMER OR BUYER OR PURCHASER) (S) (VENDOR OR SELLER OR  
MERCHANT OR SUPPLIER OR WHOLESALER)s

>>>Invalid syntax at or near '('.

? s PROPOSAL(S) (CUSTOMER OR BUYER OR PURCHASER) (S) (VENDOR OR SELLER OR  
MERCHANT OR SUPPLIER OR WHOLESALER)

1032346 PROPOSAL  
3543013 CUSTOMER  
606282 BUYER  
100993 PURCHASER  
739758 VENDOR

"TD 001"

```
228773 SELLER
327026 MERCHANT
1301510 SUPPLIER
45 WHOLESALER
S1 1448 PROPOSAL(S) (CUSTOMER OR BUYER OR PURCHASER) (S) (VENDOR OR
SELLER OR MERCHANT OR SUPPLIER OR WHOLESALER)
? s (FILER? OR QUALIF? OR SELECT?) (S) (TERMS OR CONDITIONS OR CRITERIA)
```

Processing

Processed 10 of 20 files ...

>>>File 349 processing for SELECT? stopped at SELECTORSFOR

Completed processing all files

```
19161 FILER?
1146754 QUALIF?
4325921 SELECT?
2989613 TERMS
2789085 CONDITIONS
597656 CRITERIA
S2 351222 (FILER? OR QUALIF? OR SELECT?) (S) (TERMS OR CONDITIONS OR
CRITERIA)
```

? s s1 and s2

```
1448 S1
351222 S2
S3 172 S1 AND S2
? s s3 and pd<1994
```

>>>File 15 processing for PD= : PD=1994

>>> started at PD=710000 stopped at PD=930107

>>>File 810 processing for PD= : PD=1994

>>> started at PD=850116 stopped at PD=911127

>>>File 275 processing for PD= : PD=1994

>>> started at PD=140103 stopped at PD=881206

>>>File 624 processing for PD= : PD=1994

>>> started at PD=104 stopped at PD=921203

>>>File 621 processing for PD= : PD=1994

>>> started at PD=00000000 stopped at PD=19910208

>>>File 813 processing for PD= : PD=1994

>>> started at PD=100000 stopped at PD=900920

Processed 10 of 20 files ...

>>>File 160 processing for PD= : PD=1994

>>> started at PD=2103 stopped at PD=770314

Processing

>>>File 148 processing for PD= : PD=1994

>>> started at PD=140105 stopped at PD=830728

>>>File 625 processing for PD= : PD=1994

>>> started at PD=8111 stopped at PD=890425

>>>File 268 processing for PD= : PD=1994

>>> started at PD=16T 16 stopped at PD=870522

>>>File 626 processing for PD= : PD=1994

>>> started at PD=8111 stopped at PD=890601

Processing

>>>One or more prefixes are unsupported

>>> or undefined in one or more files.

Processed 20 of 20 files ...

Completed processing all files

```
172 S3
7331304 PD<1994
S4 17 S3 AND PD<1994
```

show files;ds

File 625:American Banker Publications 1981-2001/Jul 12  
(c) 2001 American Banker  
File 268:Banking Info Source 1981-2001/Jul W2  
(c) 2001 ProQuest Info&Learning  
File 626:Bond Buyer Full Text 1981-2001/Jul 12  
(c) 2001 Bond Buyer  
File 267:Finance & Banking Newsletters 2001/Jul 11  
(c) 2001 The Dialog Corp.  
File 139:EconLit 1969-2001/Jul  
(c) 2001 American Economic Association  
File 15:ABI/Inform(R) 1971-2001/Jul 14  
(c) 2001 ProQuest Info&Learning  
File 9:Business & Industry(R) Jul/1994-2001/Jul 12  
(c) 2001 Resp. DB Svcs.  
File 623:Business Week 1985-2001/Jul W3  
(c) 2001 The McGraw-Hill Companies Inc  
File 810:Business Wire 1986-1999/Feb 28  
(c) 1999 Business Wire  
File 275:Gale Group Computer DB(TM) 1983-2001/Jul 12  
(c) 2001 The Gale Group  
File 624:McGraw-Hill Publications 1985-2001/Jul 12  
(c) 2001 McGraw-Hill Co. Inc  
File 636:Gale Group Newsletter DB(TM) 1987-2001/Jul 13  
(c) 2001 The Gale Group  
File 621:Gale Group New Prod.Annou.(R) 1985-2001/Jul 13  
(c) 2001 The Gale Group  
File 813:PR Newswire 1987-1999/Apr 30  
(c) 1999 PR Newswire Association Inc  
File 16:Gale Group PROMT(R) 1990-2001/Jul 13  
(c) 2001 The Gale Group  
File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group  
File 148:Gale Group Trade & Industry DB 1976-2001/Jul 13  
(c)2001 The Gale Group  
File 20:World Reporter 1997-2001/Jul 14  
(c) 2001 The Dialog Corporation  
File 348:EUROPEAN PATENTS 1978-2001/JUL W02  
(c) 2001 European Patent Office  
File 349:PCT Fulltext 1983-2001/UB=20010705, UT=20010628  
(c) 2001 WIPO/MicroPat

Set	Items	Description
S1	1448	PROPOSAL(S) (CUSTOMER OR BUYER OR PURCHASER) (S) (VENDOR OR S- ELLER OR MERCHANT OR SUPPLIER OR WHOLESALER)
S2	351222	(FILER? OR QUALIF? OR SELECT?) (S) (TERMS OR CONDITIONS OR C- RITERIA)
S3	172	S1 AND S2

Set	Items	Description
S1	1448	PROPOSAL(S) (CUSTOMER OR BUYER OR PURCHASER) (S) (VENDOR OR S- ELLER OR MERCHANT OR SUPPLIER OR WHOLESALER)
S2	351222	(FILER? OR QUALIF? OR SELECT?) (S) (TERMS OR CONDITIONS OR C- RITERIA)
S3	172	S1 AND S2
S4	17	S3 AND PD<1994

4/9/16 (Item 1 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

01336307 Supplier Number: 41583525 (THIS IS THE FULLTEXT)

Beyond the Metaphor: AMIX Builds an Electronic Marketplace

Electronic Services Update, pN/A

Oct, 1990

Language: English Record Type: Fulltext

Document Type: Magazine/Journal; Trade

Word Count: 2373

TEXT:

The electronic information industry is surpassingly fond of architectural and geographic metaphors. We speak hopefully of an "electronic global village," and do our Christmas shopping at the Electronic Mall. Several years ago, when the Bell operating companies (BOCs) were beginning to formulate their gateway plans, any pundit worth his or her salt allowed as how the telephone companies could certainly build electronic shopping centers, but could they get their customers in the proverbial door?

Yet, for all our attachment to the metaphorical power of location and structure, we in the information industry too rarely go beyond the descriptive and address the knotty issues of infrastructure. LINK uses the term "we" deliberately: vendors, users, carriers, consultants - not to mention the legal and regulatory communities -struggle with the lack of a fully developed infrastructure for electronic information and electronic services.

#### Making Markets

Take electronic marketmaking as an example. This is a piece of the electronic information industry that LINK has followed for several years. Electronic marketmaking services create an exchange for products and services where marketmaking has otherwise been unautomated, informal or underexploited, precisely for the lack of an appropriate mechanism. LINK's definition excludes electronic markets which essentially extend the established markets for financial instruments (examples include Reuters' Globex and Telerate's The Trading Service). Indeed, one reason LINK excludes the markets for financial instruments is that those systems can and do rely on an underlying infrastructure - that of the physical financial exchanges the world over. Marketmaking services in vertical markets as diverse as real estate, international trade, automobile and other equipment parts, computer and telecommunications equipment, and collectibles generated revenues of \$57.6 million in 1989, and will grow to \$192.5 million by 1994, at a compound annual rate of over 27%. (N.B. LINK's figures refer to marketmaking service revenues, not to the value of the products and services exchanged through those markets.)

What of the infrastructure for electronic exchange in these less-established marketplaces? How do buyers and sellers locate and **qualify** one another? What are the rules and regulations for issuing a request for **proposal** (RFP), setting prices, determining resale parameters? What safeguards does the market offer - in **terms** of reliability, confidentiality, and other issues - on both the **buyer** and **seller** sides? What mechanisms exist for arbitration and conflict resolution? How is the market incentivized, and what are the **conditions** and **terms** for market entry?

#### Enter AMIX

That these and other questions have been addressed - and in large measure answered - contributes to the impressiveness of AMIX (American Information Exchange), a Palo Alto-based development stage company, whose marketmaking service is, in President Phil Salin's words, in "late alpha." AMIX, which is 80% owned by AutoDesk (more on the ownership and outside investment question later), expects to field a pilot of its service by



spring 1991.

What market does AMIX seek to serve? ESU would dub it the "market for affordable expertise," that expertise taking forms as diverse as a research report or other document, to a bit of proprietary number crunching, to what Salin calls a "mini-consulting project." AMIX will initially target buyers and sellers of expertise in and around the computer industry, but the system's concept (as well as its true potential) is decidedly horizontal. Indeed, even in its initial incarnation, AMIX will seek to provide, not only marketing/financial and product/technology information and services for computer industry professionals, but expertise directed at the small business and home office markets (markets with particular resonance for LINK Resources).

For Example

Behind AMIX is what might be termed interactive topic management: a dynamic marriage of electronic messaging and the ability to organize and manipulate text as a series of topics or concepts. ESU has introduced readers to topic management (variously referred to as text database management, concept retrieval, and a range of other terms) through recent articles on Folio Corporation (January 1990) and Verity, Inc. (June 1990).

AMIX's topics are markets and their related submarkets, each dealing with a particular area of expertise. For ESU's initial tour of the system, Salin used two examples: LAN installation/management and computer trade shows. The prospective buyers, in turn, were looking for guidance in making a particular local area network (LAN) configuration work, and developing a strategy for participating in upcoming trade shows.

Within each market, the items which can be created and listed include:

- A listing of existing products for sale. These can include research reports, or pieces of reports. In the case of the LAN installation problem, the document was a how-to treatise. Prices currently range from under \$100 to approximately \$1,000, and are set by sellers, not by AMIX.

- A listing of experts in the given market. These experts are the authors of documents listed in the market, or consultants available for service as negotiated within AMIX. Experts' listings are enhanced by a profile, references, lists of published works, and other items which may help to qualify them. In addition, buyers may contribute their own comments, based on their experience with a product or service: "answered my questions perfectly," "way too techie," etc. Experts may respond to these comments, but cannot delete them from the system.

- Buyer-generated questions, RFPs, or other solicitations. AMIX provides a standard "form" which enables the buyer to pose the need, indicate the time frame, and propose terms (payment schedule, resale or reuse parameters, etc.). (Solicitations may be sent to every expert in the market, or limited according to buyer preference. Buyers and sellers may then negotiate and set terms through an exchange of messages: "Based on your budget and RFP, I would propose the following strategy for trade-show participation. I'll charge \$200 for one-half day of consulting." "I like your ideas, but I only want to spend \$100," etc.

This correspondence, and any other relevant documentation, is stored in what AMIX currently terms a "Correspondence Folder." This record not only facilitates the transaction, but provides an essential "paper" trail in the event conflicts arise.

(Buyers and sellers navigate through AMIX using keyword searching or scanning topics that may be of interest. Market topics are immediately downloaded to the user's disk so that actual online time is minimized. Any participant can set up hypertext links to establish additional cross-referencing and add to the richness of the system.

To browse AMIX, buyers pay only a connect-time charge to cover packet-switching costs. With AMIX's downloading feature, connect time is reduced to a minimum. Says Salin, "We are determined that connect costs not be a deterrent to buyers." User software (the same package will serve both buyers and sellers, enabling them to play either role on the system) will also be made available at minimal cost.

AMIX itself will make money from commissions on transactions completed through the network. AMIX will also manage accounting and billing.

Autodesk and Beyond

A word on the present disposition of AMIX the company, which has clear

predetermined  
conditions  
by AMIX  
a Buyer's

generate  
request  
Broad casting  
to Sellers.  
Discreet exchange

implications for the market directions the AMIX system may eventually pursue. Since 1988, Autodesk, the PC-based CAD software pioneer, has owned 80% of AMIX through a \$3 million investment. However, an information enterprise like AMIX calls for expertise and backing from investors with strength in the information business.

Hence, Autodesk is now expecting to dilute its interest in AMIX, and AMIX is seeking additional partners. The company is working with a figure of \$6 million needed to launch the system and achieve profitability. However, AMIX's costs can be lower depending on how deeply any future partner has penetrated the online universe, and the online usage patterns of its customers in that universe. Salin noted legal and financial information as two obvious sources for markets and/or partners.

#### Salin Asks Us

Salin ended his demonstration of AMIX with a question for us: "How does this compare with what you expected to see?" The answer to his question helped frame our response to AMIX as a whole. It is not the "look and feel" of AMIX which is revelatory. Anyone with even a passing acquaintance with today's PC and Mac software (AMIX will be available to both communities) has come to expect an elegant user interface. Even the wonders of lightning-fast topic management and retrieval, and hypertext linking are fast becoming the rule, rather than the exception.

We come back to the idea of infrastructure. It is not the bells and whistles, but the way AMIX has applied those bells and whistles to the building of a market structure which is so intriguing. The system erects minimal barriers to entry and ongoing usage. It offers buyers tangible advantages in terms of:

- Access to qualified experts.
- Affordability. AMIX pricing of expertise on a discrete, transactional basis sets it apart from retainer-based services such as Minnesota-based Teltech. ESU believes this pricing structure will be key to attracting users in that great, horizontal swath of small business and home office workers, of which more below.

- Flexibility. AMIX does not predetermine, but in fact encourages, buyers and sellers to be creative in the structuring of information and consulting services.

It offers sellers tangible advantages in terms of:

- Exposure. Phil Salin described AMIX as ideally suited to "young Turks," emerging experts who have the qualifications, but need to build reputations.

- Effective screening. Qualifying buyers is as important as qualifying sellers. Because AMIX negotiations are conducted as a series of electronic messages, experts have increased freedom over telephone communications to respond, seek additional information or decline queries.

- Resale/repackaging opportunities. AMIX offers virtually unlimited opportunities to leverage expertise. An author can carve up a document to be sold on an incremental basis. A consulting project prepared for an AMIX customer may become a document offered for future sale. These capabilities make AMIX attractive, not only for young Turks, but as a new marketing channel for established author/publisher/information vendors.

For both buyers and sellers, AMIX provides system utilities and guidelines to facilitate the negotiation and structuring of deals within the system. AMIX is decidedly not an enhanced yellow pages or product information directory. It is a true marketmaking system for which, as Salin succinctly puts it, "the competitive context" it provides its key.

#### Market Managers

Yet, as far as AMIX goes in exploiting the potential of an online system, it recognizes the limits as well as the potential of automation. Each AMIX market is overseen by a market manager, a person with expertise relevant to that market. Market managers organize the market from a topic point of view, seek out experts for their markets, and help to resolve buyer/seller conflicts if they arise. Salin anticipates that a market manager could oversee a single market on a part-time basis, or multiple markets on a full-time basis.

#### Who, What, When, Where

The great unknown for this marketmaking network is, of course, its own marketplace. AMIX proposes to achieve success by collecting a percentage of

hetero  
buyers

small-scale transactions. Salin freely admits that he doesn't envision AMIX serving the market for large-scale consulting projects. He further allows that the relationships which AMIX helps to initiate may eventually move off of the system. "When a consultant and a customer establish an ongoing relationship, and thousands of dollars are changing hands, they probably don't need AMIX and that's fine."

We're talking about a lot of small-scale transactions, and an ongoing influx of buyers and sellers into the system. This is an overwhelmingly horizontal concept, but as every veteran of the electronic services wars knows, there's more than one way to slice the horizontal.

AMIX is not pursuing the mass-market -- help the kids with their term paper, ask Dr. Feelgood -- buyers and sellers. Rather, the company is betting that there is enormous, untapped potential in what Salin terms "the expert-to-expert or expert-to-information-intensive market."

Based on LINK's ongoing research into the small business and work-at-home markets, we believe that Salin's assumption has merit --although perhaps more for the latter market than for the former. Consider the following points:

- Thirty percent of small businesses (those with fewer than 100 employees ) have computers equipped with modems, and nearly that same level are aware of online services. Both of these points seem to us to be minimal prerequisites for using a service such as AMIX. At the same time, only 13% of modem users consider online services to be very important to their business, with an additional 20% deeming them somewhat important. (These figures are drawn from LINK's 1990 Small Business Survey.)

- The work-at-home market paints a more dynamic picture. The first fact to bear in mind is that the leading work-at-home buyers of home office equipment (likely candidates for the kind of how-to expertise AMIX can offer) are information or knowledge workers, neatly fitting Salin's category of "information intensives."

- LINK's 1990 National Work-at-Home Survey reveals a 21% increase in work-at-home households, to 26.7 million. Of these households, 43.5% (11.6 million) own personal computers, and 34.5% of PC households (4.0 million) own modems. Work-at-home PC penetration is now higher than PC penetration in small businesses with less than five employees based outside the home. Modem users are also the highest spenders for office equipment, with the exception of those who own their own copying machine. According to 1989 figures, modem owners had over \$4,000 invested in home office equipment, compared with \$1,600 for all homeworkers. The greater investment also suggests to ESU that such people would be motivated to purchase outside expertise.

The numbers get even more interesting. LINK's survey reveals that the greatest growth in work-at-home households comes from people using computers to do occasional job-related work at home, including moonlighting. LINK estimates that nearly 9 million company employees do some work at home as a part-time secondary job, such as freelancing or operating a small home business. Such people would appear to be ideal candidates for AMIX participation, not only as buyers, but as sellers -- part-time consultants leveraging expertise developed at the workplace into a lucrative second career. AS LINK's work-at-home guru Tom Miller puts it, "As employees become skilled in the use of information products, they also become more entrepreneurial."

AMIX's possibilities are tremendous. As the company moves into beta testing and an eventual commercial rollout, we look forward to seeing how many of these possibilities will become reality.

Author: Judith Feder

COPYRIGHT 1990 LINK Resources Corp.

THIS IS THE FULL TEXT: COPYRIGHT 1990 LINK Resources Corporation

Subscription: \$495 per year as of 1/92. Published monthly. Contact

LINK Resources Corp., 79 Fifth Avenue, New York, NY 10003. Phone (212) 627-1500. FAX (212) 620-3099.

COPYRIGHT 1999 Gale Group

PUBLISHER NAME: LINK Resources Corporation

INDUSTRY NAMES: BUSN (Any type of business); CMPT (Computers and Office

00800089 94-49481

What are purchasers looking for in managed care quality?

Lipson, Edward H

Topics in Health Care Financing v20n2 PP: 1-9 Winter 1993 CODEN: THCFDG

ISSN: 0095-3814 JRNL CODE: THC

DOC TYPE: Journal article LANGUAGE: English LENGTH: 9 Pages

SPECIAL FEATURE: Charts Equations References

WORD COUNT: 3635

ABSTRACT: Spurred by competition and the growth of managed care, providers are seeking new approaches for satisfying the needs of health care purchasers. Increasingly, these purchasers are focusing on the value of managed care arrangements, especially the degree to which they manage quality. Underlying the emerging focus on quality are concerns about "undercare," potential legal liability, and the economics of quality. Purchasers are sensitive to the quality of service and the experience of their patients, as well as the clinical quality of the care they receive, and many employers are now engaged in a systematic effort to assess both of these dimensions of quality. The emergence of national data banks, practice standards, and accreditation programs offers additional tools for strengthening provider accountability for quality. Many purchasers are aggressively pursuing continuous quality improvement in their core businesses and note the application of these industrial models to health care settings. To date, most total quality management activities are occurring in hospitals.

TEXT: Spurred by competition and the growth of managed care, providers are seeking new approaches for satisfying the needs of health care purchasers. Increasingly, these purchasers are focusing on the value of managed care arrangements, especially the degree to which they manage quality. Underlying the emerging focus on quality are concerns about "undercare," potential legal liability, and the economics of quality. Purchasers are sensitive to the quality of service and the experience of their patients, as well as the clinical quality of the care they receive, and many employers are now engaged in a systematic effort to assess both of these dimensions of quality. The emergence of national data banks, practice standards, and accreditation programs offers additional tools for strengthening provider accountability for quality. Key words: managed care; credentialing; quality monitoring.

In today's competitive environment, providers increasingly seek to maintain or improve market share by understanding and meeting the needs of employers and other purchasers. While some purchasers contract directly with providers, most prefer to negotiate with a third party to obtain the key features of managed care. To complicate matters, the employer may rely on an employee benefits consultant or broker to help select a managed care vendor. Thus, providers that wish to compete successfully must understand the motivations and methods of a diverse set of players.

This chapter focuses on purchaser concerns about managed care quality and approaches to selecting managed care programs. Providers may then use these insights to judge the likely success of managed care organizations in attracting subscribers and guide development and marketing of quality management initiatives.

#### VALUE IN MANAGED CARE

There is no question that the skyrocketing cost of health care benefits has driven many purchasers to offer a wide spectrum of managed care programs.

Increasingly, however, purchasers are taking a broader view and focusing on value, not just cost.

The concept of value represents the relationship of quality to cost as shown in the following equation:  
(equation omitted)

(where V = value, Q = quality, and C = cost).

Many observers assert that the focus on value will be the driving force for change in the U.S. health care system in the 1990s. A corollary is that purchasers will increasingly focus on the value of managed care arrangements, especially the degree to which they manage quality.(1)

#### PURCHASER'S INTEREST IN QUALITY

Three key issues underlie purchasers' interest in managing quality:

1. "Undercare." In its drive to eliminate waste and "overcare" in the traditional fee-for-service health care system, managed care might lead to "undercare," where appropriate or needed care will not be provided.

2. Legal liability. By providing incentives for employees to use selected providers, purchasers might be vulnerable to claims of responsibility for medical negligence. In addition, utilization review techniques might create purchaser liability for injuries alleged to result from premature hospital discharge.

3. Economics of quality. Improving quality makes sense from an economic point of view. Based on experience in their own industries, purchasers believe that "doing it right the first time costs less." While there are no large-scale studies of the health care industry to support this contention, most health care quality experts can cite ample supporting evidence. For example, hospital-acquired infections represent suboptimal quality and also contribute to increased resource use in the form of longer lengths of stay, more drugs, and more laboratory tests.

In addition to these general perspectives, purchasers are concerned with the specific methods used by vendors to manage quality. After all, some managed care programs are quite new and have a spotty track record. Careful selection is essential with employee relations at stake, and it's difficult to switch managed care options once they are offered. Moreover, many employers are reaffirming their commitment to quality in their own core businesses and require similar commitments from their vendors--including suppliers of health care services.

#### DEFINING QUALITY

A frequent complaint from purchasers is that everyone seems to want quality in health care, but no one can define it. Part of the problem is that the attributes of quality depend on the point of view of the observer, as shown in Table 1-1.(Table 1-1 omitted)

In spite of these differing perspectives, it is possible to define certain common characteristics of quality of care, as shown in Table 1-2.(Table 1-2 omitted)

Historically, providers have not been organized or had the tools to systematically demonstrate these quality characteristics. Purchasers hope that managed care networks will be able to access data from large populations to draw conclusions about the efficacy and effectiveness of medical treatments and communicate this quality information to network providers. Because there is an enrolled population, statistics can be developed that require a known denominator for determining incidence rates (e.g., perinatal complications per 1,000 members).

On a more narrow scale, managed care networks are now requiring their

physicians to cooperate with certain quality standards.

For example, the vendor can require that the physicians notify it if a problem at the hospital results in a limitation of privileges. The vendor can also require cooperation in gathering quality monitoring data.

#### IDENTIFYING QUALITY IN MANAGED CARE

Given differing perspectives on quality and obstacles to program implementation, what are purchasers looking for to assess quality in a managed care network?

The quality of caring

How employees experience the health care services that they receive is a major indicator of quality. Four key elements that define this experience include:

1. Access and convenience How close are network providers to the employee's residence and place of work? What is the fit between historical claims and the network's roster of providers? Will a large percentage of employees need to switch primary care physicians to use "in network" services? Are the physicians listed in the provider directory available to receive new patients or are their practices closed? Is there a high turnover rate of network providers?

2. Scope of service What services are provided by the network, in addition to traditional illness care? Are wellness/health promotion/disease prevention services an integral part of the network services and are physicians supported and trained in this aspect of care? Are there specialized centers of excellence for transplants and other complicated procedures? Are there adequate numbers of specialty physicians in most of the recognized medical specialties?

3. Customer orientation Does the network place a premium on serving members promptly and courteously? How is this orientation transmitted to network staff and providers?

4. User-friendliness Most managed care networks have several administrative systems that must work together to provide a high level of service. Does the network have systems that minimize member confusion? For example, can the member call one telephone number and access all areas of the network's administrative services?

It is important for any managed care organization to assess its success in "quality of caring" by systematically monitoring the satisfaction of its members. Managed care plans often use a periodic written survey of a random sample of members or focus groups for this purpose. The purchaser may ask for the results from several recent surveys and ask how the network has used these results to correct any reported deficiencies.

When things go wrong, it is essential for the network to have an effective mechanism for resolving disputes. An informal complaint tracking mechanism should be an integral part of the member services function, so that inquiries can be tracked and resolved before they become formal grievances.

The formal grievance mechanism should provide a well-described pathway for both members and providers to resolve their concerns. The vendor should have a method for logging and tracking, and a committee structure should be in place to judge the validity of these complaints.

The clinical quality of care

Purchasers are increasingly asking detailed questions about the processes used to select, credential, and reappoint network providers.

Provider selection

How does the network target quality providers for network membership? Often, it is not possible to determine provider practice patterns in advance; however, some vendors have established provider profiles based on historical claims data to aid in the selection process.

#### Provider credentialing

After a physician or hospital has been targeted for network membership, what process is followed to verify their credentials?

#### Hospitals

Most managed care organizations rely on the accreditation process of the Joint Commission on Accreditation of Health Care Organizations (Joint Commission). In addition to verifying accreditation status, some networks are asking for a description of planned corrective actions for the most significant (i.e., type I) recommendations. In addition to verifying the network's formal hospital credentialing process, the purchasers may develop some impression of a hospital's quality through reports from employees and other informal mechanisms.

#### Physicians

Cautious purchasers closely scrutinize the physician credentialing process, beginning with a review of the application document. Does the application request information on personal health, education and training, hospital privileges, and malpractice history? Does the application require the physician to answer a series of yes/no questions regarding limitations or suspension of privileges, suspension from government medical programs, suspension or restriction of drug license, malpractice insurance cancellation, felony conviction, drug or alcohol abuse, and chronic or debilitating illnesses? Does the network independently verify: unrestricted medical license, drug certificate, malpractice insurance in force at specified limits, hospital privileges, malpractice history, and board certification?

Some purchasers request that the network check the National Practitioner Data Bank as part of the credentialing process. There are limitations on the ability of managed care organizations to access this information, but they may be able to require that physicians provide a report from the data bank as part of the network credentialing process.

The Public Citizen Health Research Group (Washington, D.C.) has received wide publicity for its national database of physicians that have been publicly disciplined. In addition, the Medicare program releases information on physicians who have been barred from participation. Purchasers may ask whether these data sources are used in credentialing because of inquiries from their employees.

Purchasers may also ask about notification requirements in the provider contracts. For example, is a physician required to promptly notify the managed care network if the physician's privileges were restricted at a hospital?

Some managed care networks include practice site reviews as part of the credentialing process. In order to qualify for network membership, must a physician meet certain facility standards (e.g., adequate parking, sick and well reception areas, handicapped access) as well as clinical standards (e.g., disposal of hazardous waste, security of controlled substances)?

After the initial credentialing process, is there a periodic reappraisal of physician credentials? In addition to obtaining an interim health and malpractice history from the physician, does the network use reports that profile individual provider practices to support the reappointment decision? Are member grievances, peer review decisions, and other clinical monitoring reports included in these profiles?

In summary, purchasers view the initial credentialing and ongoing

reappointment processes as critical activities for promoting quality in the provider network. They also expect careful screening of applicants as a hedge against possible future claims of negligence in selecting providers. This is particularly important in light of a 1988 study that found that 5 percent of physicians applying for clinical positions in a national ambulatory care program presented false clinical credentials.(2)

#### Case-based clinical quality monitoring

How does the network monitor quality of care? Are individual cases of potentially poor quality identified and evaluated by network personnel? Are these cases analyzed by a peer review committee and discussed with the physician and are disciplinary actions taken if necessary?

#### System-based clinical quality monitoring

Is there an effective system for monitoring and evaluating the managed care network's quality management (QM) program? Does the network have an effective system for examining care, uncovering problems and opportunities for improvement, and correcting them?

Sophisticated purchasers seek a monitoring program that can identify trends so that care can be constantly improved. For example, if a hospital's admission rate for uncontrolled hypertension exceeds a defined level, what steps are taken to determine the underlying causes and reduce the rate below the threshold? For a Cesarean section rate of 24 percent, approximately the national average, what steps are needed to reduce the rate to 18 percent?

Robust data systems are necessary for an effective quality monitoring program. Many managed care programs, however, have developed their claims systems in an indemnity environment and these systems are not always well suited to capturing diagnostic and outcome-of-care data. What enhancements have been made to the network's data systems to meet purchaser reporting requirements?

#### Risk management

The goal of risk management is to protect the vendor-and potentially the purchaser--from losses and, in concert with the QM program, to identify and reduce the risk of patient injury associated with care. Traditionally, risk management activities have been strongest in hospitals, but the increasing volume of outpatient care requires an extension of these activities.

Does the managed care network have a well-conceived risk management plan that is integrated with the quality monitoring program and involves physicians in the loss and injury prevention process?

#### Corrective action

While purchasers seek to avoid guaranteeing the quality of care provided to their employees, they expect that if network quality monitoring has identified problems, effective action plans will be developed. For findings involving an individual provider, does the network have a peer review committee structure that offers the provider an opportunity to respond and provide additional information? After thorough review, if the care provided is below network quality standards, can the provider appeal the decision?

For findings that are based on aggregate data from the quality monitoring program, can the network show that the reasons for the problem have been investigated, improvements implemented, and the effectiveness of the improvements monitored?

#### EVALUATING MANAGED CARE QUALITY

The challenge for the purchaser is to assess whether the various aspects of quality discussed are present in the managed care network and how



- rigorously they are being executed. For many purchasers, this assessment includes a structured evaluation process.

#### Timing

A quality assessment can be performed at various points in the managed care development cycle, beginning with the initial vendor selection. For example, the purchaser's request for proposal can include a comprehensive quality section.

Another point for quality assessment is during implementation. After the vendor has been selected, the purchaser may initiate an in-depth evaluation of the quality programs, including an on-site audit.

Finally, the purchaser may wish to develop an ongoing monitoring program that will provide useful quality information prior to renewal.

#### Quality evaluation process

Purchasers usually chose to limit their direct involvement in the evaluation of a QM program because they lack the clinical perspective necessary to judge these programs. Furthermore, direct involvement might have the paradoxical effect of increasing liability exposure. Clinicians and other health care delivery system "insiders" may be enlisted to aid the evaluation process by collecting information and assisting purchasers to interpret the findings.

Typically, the process for evaluating managed care networks has two phases: document review and on-site evaluation.

#### Document review

In this phase, a careful review of the vendor's quality plan documents is conducted. Descriptions and supporting documents that are reviewed include the following:

#### provider selection criteria;

\* provider applications; \* description of the credentials verification process; \* description of the reappraisal of credentials process; \* review of provider contracts, with emphasis on the sections dealing with provider notification requirements, and obligations to participate in the quality monitoring program; \* the QM plan; and \* a description of the database that supports the QM program.

#### On-site evaluation of network operations

Eight steps are taken in this phase to assess the network's systems:

1. A sample of physician credentials files are reviewed for completeness and independent verification of key items.
2. Applicant disapproval and termination rates are assessed to determine the strictness of criteria in terms of the percent of providers denied participation.
3. Key personnel are interviewed to establish their qualifications and knowledge about their jobs.
4. Data collection efforts are observed. For example, if quality indicators are entered into medical management screens, the process and method for determining appropriate indicators is assessed.
5. Quality monitoring activities are reviewed and discussed with the medical director and network QM staff.
6. An extensive interview is held with the network medical director. The medical director is the key to an effective QM program and his or her

insights and skills in program implementation are critical to the success of the QM program. The highest yield from the medical director interview can be obtained if the interviewer is another physician.

7. The minutes from peer review proceedings, quality monitoring committees, and grievance committees are reviewed.

8. Vendor surveys of member satisfaction are discussed with appropriate network staff, and plans for corrective action are reviewed. Grievance tracking reports and informal complaint resolution procedures are evaluated.

#### EMERGING TECHNIQUES

In the future, purchasers will intensify their efforts to evaluate the quality of their managed care vendors. These vendors, in turn, will have more sophisticated tools for monitoring and managing quality. Some of these tools are currently available but not fully developed or implemented in the managed care context. Other tools are just being developed, particularly in the data area.

#### National practitioner data bank

The Health Care Quality Improvement Act of 1986 established a national clearing house for physician credentials. The data bank began operation on September 1, 1990, with Unisys as the vendor. The primary focus of the data bank is to collect information on physician malpractice and adverse credentialing decisions. Hospitals and malpractice carriers are required to report credentialing information to the data bank. Some managed care organizations are required to report to the data bank but only health maintenance organizations (HMOs) can request information.

Currently, the information contained in the data bank is limited. As reporting increases, the data bank may become a useful tool for managed care credentialing, especially in checking a physician's practices in another state. To expand its utility, guidelines for accessing the data bank will need to be relaxed to include managed care networks that are not licensed as HMOs.

#### Practice standards

Purchasers are now bombarded with mail, articles, and conferences on provider-generated practice standards, protocols, and guidelines. Purchasers generally support providers' desire to judge effectiveness by examining the clinical outcome of care and the development of practice standards as the benchmark for making these judgments.

Some physicians have labeled practice guidelines as "cookbook" medicine. They also fear that care that deviates from the protocols might increase their exposure to malpractice claims. While these are legitimate concerns, there is growing evidence that the use of practice standards actually reduces malpractice exposure because the physician can use adherence to the protocols as evidence that care was planned according to generally recognized professional standards.

Although debate continues within the medical profession, purchasers expect to see continuing refinement and implementation of practice standards and protocols as important tools for managing quality in managed care networks. (3)

#### External accreditation programs

It might simplify the selection process for purchasers if nationally recognized and validated accreditation standards were developed for managed care programs. The Joint Commission began a managed care accreditation program in 1988 but abandoned the effort in 1990.

The National Committee for Quality Assurance (NCQA) currently offers an

accreditation program. The NCQA was founded in 1979 as a joint effort of the Group Health Association of America and the American Association of Foundation for Medical Care. After reorganization in 1990, the NCQA expanded its program of voluntary accreditation for HMOs, with emphasis on QM systems. Several large, carrier-based managed care networks currently are participating in the NCQA accreditation program.

In reality, the diverse needs of different purchasers and the local and regional variations in medical practice make it unlikely that accredited status could serve as the sole basis for selection of a managed care plan. As accreditation programs evolve, they may provide a useful starting point for managed care evaluation. Accreditation might be a necessary but not sufficient basis for a purchaser to select a managed care program.

#### Improved data collection and trending tools

As managed care plans become more sophisticated at integrating claims and medical management systems, purchasers expect to receive better reports of aggregate quality performance. These reports should reflect the evolution from quality monitoring that focuses on identification of "bad apples" to the continuous improvement of systems for taking care of members. (4)  
Total quality management

Many purchasers are aggressively pursuing continuous quality improvement in their core businesses and note the application of these industrial models to health care settings. To date, most total quality management (TQM) activities are occurring in hospitals. In the eyes of the purchaser, the leading edge managed care program will be the one that succeeds in implementing a comprehensive TQM system in a managed care context. (5)

#### REFERENCES

1. For an overview of value purchasing, see Couch J.B. "The Era of Medical Care Value Purchasing and the Role of Physician Executives." In Health Care Quality Management for the 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
2. Schaffer, W.A., Rollo, F.D., and Holt, C.A. "Falsification of Clinical Credentials by Physicians Applying for Ambulatory-Staff Privileges." New England Journal of Medicine 318, no. 6 ( 11 February 1988): 356-58.
3. For a review of issues relating to practice standards, see Eddy D. "The Role of Clinical Practice Policies in Quality Manapement." In Health Care Quality Management for the 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
4. For a review of issues relating to data management, see Caper P. "Population-Based Measures of the Quality of Medical Care," and Pine M. "The Use of Large Databases to Monitor and Manage the Quality of Health Care." In Health Care Quality Management for 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
5. For a useful critique of TQM applications in managed care, see Jennison, K. "Total Quality Management--Fad or Paradigmatic Shift In Health Care Quality Management for the 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.

THIS IS THE FULL-TEXT. Copyright Aspen Publishers Inc 1993

4/9/2 (Item 2 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

00733729 93-82950

The buying behaviour of air freight forwarders

Lillie, Mark; Sparks, Leigh

International Journal of Physical Distribution & Logistics Management  
v23n1 PP: 14-22 1993 CODEN: IPDJAX ISSN: 0960-0035 JRNL CODE: IPD

DOC TYPE: Journal article LANGUAGE: English LENGTH: 9 Pages

SPECIAL FEATURE: Charts References

WORD COUNT: 5976

ABSTRACT: An examination is made of the buying behavior of air freight forwarders in Scotland. Personal interviews and questionnaires are utilized to discover the opinions, behavior, and needs of freight forwarders when purchasing the services of an air carrier. The results suggest that both task and non-task factors are important. In particular, it is found that price is not the key determinant, though it remains an important one. It is concluded that it is the total product offering that is crucial for long-term relationship building rather than any short-term promotional activity focusing on price. This is clearly related to developments in relationship marketing and extensions to buyer-seller relationships. By stressing the total range of the product offering, companies are better able to form more stable relationships.

TEXT: The air cargo industry is of global and increasing importance. Davies and Gray 1! estimate that over 8 million people are employed worldwide in forwarding services alone. The role for fast, efficient and effective freight services seems assured, expanded by technological advances. As international or global business and sourcing increases, the need for such services expands further. With such a scenario it is, therefore, of little wonder that there are a large number of service providers and that the choice or buying decision between them is of increasing importance.

The aim of this article is to present the results of an investigative study into the buying behaviour of air freight forwarders and to link this work with theoretical models of buying behaviour. To meet this aim, the article is structured into five main sections. First, the air freight market itself is discussed. Second, various models of decision-making and buying behaviour are introduced and examined and a model for empirical examination suggested. Third, the methodology of the primary research is outlined, with the results presented in section four. Finally, conclusions are drawn.

#### THE AIR CARGO MARKET AND FREIGHT FORWARDING

In understanding the buying behaviour of freight forwarders it is necessary to focus their role within the distribution chain. The concept of transporting goods by air is as old as aviation itself. Today's marketplace, together with rapid technological developments, instant communications, just-in-time production systems and intense competition to add value, provides a climate in which air freight prospers. However, as with other industries the air cargo sector has suffered over the past decade, due to world trade recession, additional security requirements and intense competition 2!.

The importance of air cargo in distribution terms, however, is assured. Over the past decade there has been widespread destocking arising from the withdrawal of tax relief on stock appreciation and sharp rises in interest rates. The continuing diffusion of just-in-time (JIT) and supply chain management systems further benefits the air cargo industry. As

manufacturers adopt a JIT philosophy, with the objective of eliminating all noncontributing resources, products previously held in stock in a variety of locations may now be demanded urgently for next day delivery from one central location. Thus, the speed and services of air cargo are increasingly being demanded 3!. As McKinnon notes, "the suppression of inventory levels is . . . promoting the growth of express freight services" 4, p. 261!. The higher costs of air freight are thus offset by the inventory reduction and savings in other functional areas, and the higher service level provided. At the same time, there is an increasing use of technology to improve performance throughout the industry.

There are two main approaches to air cargo services. The first involves carriers collecting packages, shipping them on their own aircraft and then delivering them. These are the integrated carriers. This differs from the traditional system in which freight forwarders collect packages, consolidate them, deliver them to a selected air carrier for flight and then collect the packages at the other end for delivery (see Figure 1). (Figure 1 omitted) While traditional air cargo has maintained a 7 per cent annual growth rate worldwide, the real growth area has occurred in the air express sector, at rates estimated between 25 and 40 per cent 5,6!. The success of integrated carriers such as TNT and Federal Express arose, in part, from a direct attack on the perceived weakest points of the traditional air cargo industry: namely, an inability to provide shippers with upto-date information concerning the status of their goods, and an inability to move goods as swiftly on the ground as in the air 7!.

Airlines are expanding and improving their cargo services in an attempt to defend their share of the market, from both integrated carriers and other traditional cargo carriers 8!. Many carriers previously regarded cargo services as merely a by-product of operating passenger services. They recognize, however, that revenue can be maximized through air cargo. As Smith suggested: "Air freight makes a significant net contribution to the profitability of airline services, even after deducting all the additional costs incurred to earn it" 9, p. 50!. The ability of airline carriers to defend their market share rests on the establishment of closer relationships with their "natural" partner, the freight forwarder. This partnership between carrier and freight forwarder is recognized and Davies and Gray suggest that "95 per cent of all air freight is handled by air freight forwarders" 1, p. 106!, although this figure is reduced today by competition. McKenna describes freight forwarders as the air carriers' "front line troops in the battle against integrated express carriers" 8, p. 125!. Within this "natural partnership" and "battleground", therefore, a critical issue for freight forwarders arises in their selection of airline services to use. This buying behaviour is the subject of the present study.

The term "freight forwarder" encompasses a wide variety of organizations which offer services to shippers. An appropriate definition is hard to find, with even the Institute of Freight Forwarders (IFF) finding this task challenging:

The freight forwarder's--formally termed the shipping or forwarding agent--initial role was one of "arranger" of international transport services, finding space for a shipper's export cargoes. In recent years this role has expanded encompassing the co-ordination of transport documentation, custom clearance and other such ancillary services 10!.

Despite the variation of services offered by individual freight forwarders, several core activities generally undertaken can be highlighted 11!:

- (1) The arrangement of the carriage of freight and payment of charges.
- (2) Consolidation of air freight.
- (3) Advice on routing regarding reliability, cost and security.
- (4) Undertaking related documentation.

(5) Arranging customs clearance.

Ross 12, p. 232! describes the activities of the freight forwarder as:

assembling small shipments into single large consignments which are passed on to an airline in the name of the freight forwarder as shipper. This involves receiving individual packages from different shippers and consolidating them, for subsequent despatch, but not necessarily by the first available service. Consolidated assignments are then disassembled at destination, or at a convenient intermediate point en route, and individual consignments reforwarded to destination. Increasingly, technology is an integral part of this.

In combating the rise of the integrated carrier, therefore, freight forwarders need to work closely with airlines to provide the most appropriate service for their customers. This involves them in purchasing services and it is the decision making in this activity that is considered here.

#### MODELS OF DECISION-MAKING AND BUYING BEHAVIOUR

Hutt and Speh 13, p. 18! define organizational buying behaviour as "the decision making process by which formal organizations establish the need for purchased products and services and identify, evaluate and choose among alternative brands and suppliers". Several theoretical models exist which attempt to clarify and explain a buyer's behaviour within the procurement process. On a broad perspective, these models may be categorized as task, non-task and complex models 13-15!.

##### TASKS MODELS

A variety of task models exist, which focus primarily on the economic factors of any decision. Though considerations of constrained choice and reciprocity can be included, the emphasis on economic factors in task models invalidates their application alone to the buying decision of freight forwarders, as other factors are likely to exist. These models are incomplete as descriptions of buying behaviour in formal organizations, because rationality and simplicity cannot be assumed.

##### NON-TASK MODELS

"Non-task orientated models introduce human beings into the description of organizational buying behaviour" 14, p. 16!. The influence of human factors such as personal satisfaction and status, risk minimization and individual buyer/seller relationships can be anticipated as being important in the process of freight forwarders selecting an air carrier. Task variables alone and non-task issues are not enough, so too are non-task issues alone insufficient, as degrees of rationality might be expected in freight forwarders' purchase decisions. Thus, as Webster and Wind assert "ideally our model of the organizational buying process would include individual, group and environmental variables and both task and nontask considerations" 14, p. 20!. Complex models provide a means of simultaneously combining task and non-task variables.

##### COMPLEX MODELS

Robinson et al. 16! introduced an empirically-based twodimensional model, namely the "Buygrid model". This model distinguishes three different forms of buyclass:

- (1) Buying situations, namely new task.
- (2) Modified re-buy.
- (3) Straight re-buy.

In new task buyclass a need is perceived to be totally different from

previous needs and, consequently, a substantial quantity of information is necessary to investigate alternative ways of satisfying the need and finding potential suppliers. Industrial marketers confronting a buyer within a new task-buying situation may obtain a significant advantage over other suppliers by participating in the initial stages of the procurement process.

In the modified re-buy buyclass, organizational buyers, despite having well-defined criteria designed to satisfy their need, believe it may be advantageous to re-evaluate alternatives. When encountering a **buyer** within a buyclass of modified re-buy, the direction of a **supplier's** marketing effort is dependent upon whether the **supplier** is an "in" or an "out" **supplier**. An "in" **supplier**, i.e. a **supplier** who has already established a working relationship with the **buyer**, must both understand and satisfy the **buyer's** procurement process and move them into a straight rebuy situation. An "out" **supplier**, i.e. a **supplier** who currently does not deal with the prospective **buyer**, may increase their appeal to the **buyer** through offering guarantees as part of the **proposal**, thus decreasing the perceived risk of buyers to employ a new **supplier**.

A straight re-buy buyclass is seen to occur when there is a recurring requirement of one buyer upon a supplier. The decision process engaged by buyers within this buyclass may be described as routinized response behaviour. Unlike the above buying situations, buyers within a straight re-buy have both well-developed **selection criteria** to apply to the purchase decision, and have a strong predisposition towards one supplier's offerings. Again, the direction of the marketing effort appropriate to this buyclass is dependent on whether the marketer is an "in" or an "out" supplier. "In" suppliers should attempt to strengthen their relationship with the buyer, satisfying their requirements and continually monitoring the buyer's present and future needs. "Out" suppliers face a substantial obstacle in that they must convince the buyer that benefits outweighing any perceived risk of employing a new supplier may be gained by re-evaluating alternatives and switching to a new supplier.

Theoretical models elucidate the importance of understanding the buyclass of prospects. We might expect the situation to vary among freight forwarders and over time, but it would seem likely that most freight forwarders would be in either the straight re-buy or modified re-buy class, and this is investigated later. It is now necessary to review models related to the purchase of freight transportation services.

The importance of physically distributing goods has long been acknowledged. Mentzer et al. 17! cite the early work of Shaw 18! who noted a shift in emphasis from a view where distribution was seen merely to satisfy needs, to one where distribution became regarded as a measure of a supplier's performance. Despite over 70 years of discussion, instilling the importance of physical supply in the academic forum 17!, only recently has the full significance of physical distribution been recognized within industrial circles 4!.

The same product may elicit very different buying behaviour in different organizations. To understand this phenomenon the determinants of buyer behaviour, such as a company's buyclass, must be investigated. Several studies have analysed the buyclass of buyers of freight transportation services. Cook 19! examined the buyclass of transportation buyers, specifically looking for straight re-buy situations, and concluded that positively confirmed expectations (situations where the firm's performance exceeds customer expectations), did cause an increase in repurchase. Brooks 20, p. 3! states that "a satisfied purchaser of freight services will merely choose the carrier chosen 'last time', i.e. a straight re-buy situation and will not engage in prolonged decision making". Similarly, Cunningham and Kettlewood 21! conducted a study exploring straight re-buy buyclasses in freight transportation purchase decisions within Scotland, and emphasized their significance. In contrast, Saleh and La Londe 22!

stated that 94 per cent of the companies they studied were in a modified re-buy buyclass.

The differences of opinion concerning the buyclass of buyers of eight transportation services is seen by Day 23! as a paradox. Day explains that though buyers may claim they seek a strategic partnership with a supplier, i.e. a straight re-buy situation, in reality their buyclass may be one of new task, as empirical research suggests that "shippers prefer to seek individual specialists and enter into short term contracts" 23, p. 30!.

Stock 24! partially addressed the subject of **selection criteria** in carrier decisions. Anderson, et al. 25!, in a more detailed study of the perceptions of shippers and carriers, identified "differences" between a carrier's assessment and the actual importance shippers assigned to specific **criteria**. The three major dimensions of **criteria** appraised by shippers in this study were identified as relating to the carrier's "technical ability", "service orientation" and general "image". This study, however, was not specific to air transport.

McGinnis 26! provides an extensive list of **criteria** used by shippers in their **selection** of a carrier. Moreover, this study attempts directly to identify the relative importance of specific **criteria**. The three variables considered to be of greatest importance are, in rank order, speed plus reliability, rates, and the security and safety of freight. Davies and Gunton 27! note criticism of this list, questioning its validity in a trade recession.

The literature, to date, has therefore primarily investigated the **criteria** used in the process of **selecting** a carrier. However, the subject of investigation has invariably been the shipper and not the freight forwarder. An exception is a commercial research project undertaken by Pilot Air Freight. This project investigated customers', including freight forwarders', buying behaviour when **selecting** air carriers. However, due to the commercial significance of these results, further details are not available 28!.

More recently, American results from a study that incorporated freight forwarders 29! indicated that "situational" considerations play a key role in choice decisions. Price was less important to freight forwarders than anticipated. The authors concluded with a plea for more research among non-shipper groups such as freight forwarders .

Apparently, no empirical UK study has yet investigated the buying process of freight forwarders selecting a carrier for air freight. However, a "general" model investigating the needs of industrial buyers of freight transportation services has been developed, and is discussed below.

#### A GENERALIZED MODEL

Davies and Gunton 27! unified previous models into a generalized model which applies the needs of buyers of freight transportation services to Maslow's "hierarchical model of needs" 31!. Davies and Gunton's model 27! both identifies and establishes a means of determining the relative importance of criteria. They assert that the criteria used by freight buyers can be categorized into four dimensions-namely, risk reduction, price, ease of use and company image:

(1) Risk reduction. The tendency of industrial buyers to reduce perceived risk 1! implies that buyers employ the services of carriers who ensure the maintenance of their own reputation. Within this dimension such "technical" 25! criteria as speed of transit, frequency of departures, security of consignments and the consistency of a carrier's performance may be evaluated by freight forwarders.

(2) Price. Industrial buyers will always incorporate price influences into the buying process. However, other financial considerations such as credit



facilities and nett billing may also be reviewed by freight forwarders.

(3) Ease of use. While industrial buyers are thought to engage in "extended problem solving", freight buyers, in reality, limit the effort they expend<sup>11</sup>. Thus, ease of use **criteria** such as offering consolidation services, having knowledge of a forwarder's operations and the degree of possible integration with a forwarder's schedules may be significant in the forwarder's **selection** of a carrier.

(4) Company image. Product offerings include not only tangible aspects but also intangible facets. Consequently, the quality of promotional material and courtesy of staff may also be analysed by freight forwarders when evaluating potential carriers.

Buyers are human and, as such, are motivated by psychological factors. Maslow sought to explain an individual's motivation using a hierarchical model, where individuals first satisfy their basic needs before focusing on higher needs. The core concept of this model is noted by Davies and Gunton as they explain, "in this type of model, referring to one factor as being more important is less precise than the understanding that all factors will eventually be considered if other factors have been found acceptable"<sup>27</sup>. Employing this notion, they claim that buyers will only turn to "objective appraisal methods" when all four criteria dimensions have been satisfied in full, by at least two suppliers.

Maslow<sup>30</sup> notes the limitations of his model, recognizing that most individuals will not be motivated to satisfy all needs but will tolerate only partial satisfaction. Davies and Gray<sup>1</sup> echo this by noting the reality of satisfactory, as opposed to optimum, decisions.

Buyers will have differing orders of needs. However, as Maslow explains, "Despite variations between individuals in their needs . . . there is a tendency for common needs to evolve"<sup>31</sup>, p. 52<sup>1</sup>. The validity of Davies and Gunton's application of Maslow's model is seen in the consideration that, while price will always be a criterion in any organizational buying decision, it is not viewed in isolation but, rather, is considered in conjunction with other factors such as risk reduction. Therefore, price is one layer in the hierarchy of a buyer's needs. This is represented diagrammatically in Figure 2. (Figure 2 omitted) This notion of a hierarchical buying process is explained by Davies and Gunton as follows: "The buyer proceeds up the hierarchy of needs until all available alternatives are exhausted, in other words the decision is made"<sup>1</sup>, p. 8<sup>1</sup>.

As stated earlier, the aims of this article are two-fold: first, to investigate the buying behaviour of air freight forwarders; and, second, to investigate the validity of Davies and Gunton's hierarchical model of needs within this buying situation. This section has discussed the buyclass approach to understanding buyer behaviour and has also introduced the hierarchical model. Neither of these approaches is new, but it is rare for them to be tested. The research attempts to do this in the air freight forwarding market.

#### RESEARCH METHODOLOGY

To achieve the above aims, a primary research study was undertaken, utilizing personal interviews and questionnaires to discover the opinions, behaviour and needs of freight forwarders when purchasing the services of an air carrier. As noted earlier, there is a degree of ambiguity over the term "freight forwarder" and in the identification of relevant companies. A frame of reference was, therefore, sought and obtained from the British Institute of Forwarding Agents (BIFA). This comprised details of 155 trading members in Scotland, of which 138 engaged in forwarding air freight. According to BIFA this represents a complete list of air freight forwarders in Scotland. Clearly, a survey of all freight forwarders in the UK would have been desirable, but was simply too large an exercise. It was decided to concentrate on the Scottish market for size reasons, but also because it represents a discrete market and is one that is undergoing an interesting period of change, with developments at Glasgow and Prestwick

Airports. This list, therefore, comprised the survey population.

Utilizing the literature examined earlier, a questionnaire was designed to obtain details about buying behaviour and the needs of these freight forwarders. A series of interviews with two freight forwarders and a trade body representative was undertaken to broadly discuss the issues, and to ensure that the secondary research had covered the appropriate topics. These interviews also enabled the questionnaire to be developed and refined. To test the effectiveness of the questionnaire, a pilot study was conducted with a total of six freight forwarders in the Glasgow area. The questionnaires, in these instances, were completed in the presence of one of the authors to allow discussion about contentious points or wording and to ascertain any difficulty in completion. Several amendments were felt necessary following an analysis of the responses and suggestions made by the pilot test respondents.

The revised questionnaire (copies of which can be obtained from the authors) was mailed, in January 1992, to the 138 freight forwarders from the BIFA list. From these, a total of 87 questionnaires were returned, providing a response rate of 63 per cent. Of these, however, two were blank as the businesses were in receivership, nine claimed that they no longer acted as freight forwarders, and a further ten were incomplete by the return date. Thus, a total of 66 questionnaires were included in the analysis, i.e. an effective response rate of 48 per cent, which is a high response rate for a postal survey. Given the nature of the survey population, no disaggregation by activity/size etc. of the companies was attempted, but it is believed that the response rate is sufficient that the views obtained are representative of air freight forwarders in Scotland. It is recognized and accepted that it is a limitation of the approach taken that opinions rather than behaviour are really identified, but it is felt that this is an appropriate initial stage of research into this subject.

#### ANALYSIS OF RESULTS

The respondents indicated that they believed they offered a comprehensive service to their shippers and that this was on a global basis. The major destinations were Europe, North America and the Far East. The respondents were mixed in their views about preferring to deal direct with airlines (59 per cent) or working through agents (40 per cent), such as Servisair. The preference for dealing direct with airlines was founded on the service and rates provided. Cross-tabulation to investigate these differences suggested that it was particularly evident that freight forwarders preferred dealing direct on the North American route, because of the rates charged. This accords with recent changes in the Scottish market where airlines have cut rates in an attempt to raise market share. However, those preferring agents indicated that this was due to consolidation, service, credit facilities and the presence of a local office. What these broad parameters show is that both task and non-task reasons were identified and that, indeed, there seems to be a preference for certain key features (needs) to be addressed before other issues become important.

The main analysis of the responses is undertaken here under the broad headings of information, buyclass, motivation, **selection criteria** and model validity.

#### INFORMATION

Previous research (discussed earlier) indicated that five major sources of information (identified in Table I) are used by buyers of freight transportation services to create a list of alternative carriers. (Table I omitted) These were entered on the questionnaire for the respondents. A limited number of respondents (4.6 per cent) claimed that information is obtained from sources other than those listed. These respondents specified information sources or directories such as The ABC Freight Guide.

Table I shows that "word of mouth" and "promotional material" are viewed as

the least common sources of information by the respondents. "Sales calls" were noted by only 11.4 per cent of respondents as, uncharacteristically within industrial marketing, suppliers, i.e. carriers, do not widely visit clients. It is, therefore, not surprising that respondents do not deem this information source to be of great importance. Market analysis (e.g. 11!) indicated the possibility of some freight forwarders being limited in their choice of carriers, due to shippers specifying preferred carriers. In fact, almost 20 per cent of respondents claimed that this is indeed a factor in developing choice sets.

By far the most important information source identified by respondents (48.5 per cent) was past experiences. Arguably, this implies that a modified re-buy buyclass is dominant, as minimal information search occurs--a characteristic feature of a modified re-buy buyclass. It could also be argued that, for some freight forwarders, their past experiences translate into a straight re-buy situation.

#### BUYCLASS

Freight forwarders can receive regular routine orders and, as seen in Table II, 25.8 per cent of respondents operate with a degree of source loyalty, allocating business to one carrier without any further information search. (Table II omitted) This is clearly a straight re-buy decision. However, even for routine orders, this is not the dominant method of selection. The majority of respondents, 69.7 and 66.7 per cent for new and routine orders respectively, engage in minimal problem solving, considering two or three carriers before making a selection. Therefore, the dominant buyclass is indeed seen to be one of modified re-buy. There is evidence of a slightly wider choice when the order is new rather than routine, with more respondents indicating that they select from among more than three carriers.

#### MOTIVATION

Respondents were asked to indicate the size of the buying centre, i.e. the decision-making unit. In 62 per cent of cases, the buying centre comprised only one individual, with a further 29 per cent stating that two individuals were involved. The restricted size of the decision-making group means that motivation is very important. Buyers are influenced by non-task variables, such as perceived risk. From the survey, 57.6 per cent of respondents indicated that they felt the risk in purchasing carriers' services was high. There is, therefore, a degree of nervousness around decision making. Anderson and Chambers 31! claim that organizational buyers are motivated by the potential of receiving intrinsic and extrinsic rewards. If carriers can ascertain which rewards are dominant in this buying decision, product offerings to the freight forwarders can be enhanced, maximizing the rewards desired by decision makers.

Table III illustrates the dominant motivations of respondents when purchasing air transportation services. (Table III omitted) The forwarders' principal reward is seen to be personal satisfaction, with 80.3 per cent of respondents receiving this reward, though a substantial number (19.7 per cent) of respondents claimed to receive no reward at all. A total of 6.1 per cent of respondents claimed to receive rewards other than those listed. These were identified as being "relief" and also "a sense of value from creating a potentially loyal customer". These results suggest that personal relationships are important in this marketplace.

#### SELECTION CRITERIA AND MODEL VALIDITY

To understand the selection criteria, and to test the model validity, respondents were asked to rate a series of factors on a scale of one (low) to ten (high) with respect to each factor's contribution to selecting a carrier. Table IV lists the factors under dimension headings. While respondents would have received the factors in the same order as in the table, the dimensions were not provided as headings. These

dimensions are those of the hierarchical stages in the model being tested.

From the mean scores from all respondents for each factor it is possible to rank the relative importance of the factors within their dimensions (see Table IV). (Table IV omitted) Having identified the mean score and ranking order of the factors, an average value, on a scale of one to ten, can be calculated for each dimension. As seen in Figure 3, the order of importance of each dimension corresponds broadly to the hierarchical model developed by Davies and Gunton 27!. (Figure 3 omitted)

Table IV provides a variety of pointers to the relative importance of **selection criteria** and dimensions in the decision-making process. From the mean scores in Table IV, it is clear that the key dimension is that of risk reduction, with the average scores for each factor being high. Indeed, it is only occasionally that other factors come close to the mean scores recorded under the risk reduction dimension. Of these, only the factor of "rates offered" would replace any of the risk reduction factors in a "top six" factor list. The position among the other three dimensions is more confusing and the scores are similar (with the exception of two factors in the company image dimension). (It should be recalled that these dimensions stem from previous research and were not identified by the respondents.) It is equally plausible, therefore, to consider the factors themselves and, in this case, the "ease of contact" factor would have come high up the listing. Indeed, it is a feature of the scores that service, in a broad sense, is seen to be very important. In the case of risk reduction, these are the tangible elements of service, but the other more intangible elements also score well. Within the industry, there is a generally held belief that price, rather than service, is the primary criterion governing carrier **selection**. This notion, though inaccurate in **terms** of this study's results, is seen to have a rational basis, in that satisfactory, as opposed to optimum, buying behaviour appears to be present. In turn, buyers are seen to compromise among **criteria**, satisfying their basic needs in full, i.e. risk reduction, and subsequently compromising total satisfaction of higher needs. Following the buying decision process through, as defined by Davies and Gunton 28!, buyers, on achieving full satisfaction of basic needs, seek to achieve full satisfaction of higher needs, i.e. price. If a supplier's offerings fail to achieve this basic satisfaction, business will indeed be refused on the basis of price. Thus, while carriers may be refused on price, this factor, as Figure 3 illustrates, is not the primary criterion governing freight forwarder's carrier **selection** decisions.

Companies can devise marketing strategies that maximize the total utility of product offerings for customers, to exploit this hierarchy of needs and the presence of a dominant modified re-buy buyclass. Such strategies should not promote higher order factors until it is established, in the buyer's perception, that all their basic needs can be satisfied. Despite the competitive nature of this industry, freight forwarders must realize that price promotion alone will prove ineffective.

What Table IV and Figure 3 demonstrate is that there is a clear requirement for carriers (and/or agents) to position themselves and their offering towards freight forwarders. (Figure 3 omitted) In the first instance, it is vital to be in a position to reduce risk for freight forwarders by offering and delivering the tangible dimensions of service. The basic requirement is to have confidence in the operations. This is then compounded by the need to offer attractive rates. Clearly, freight forwarders are not likely to build a long-term relationship with a cheap operation that does not deliver consistently. The price issue is then followed by the less tangible elements of service, i.e. the relationship components.

In essence, these rankings also explain the buyclass. Companies have experience of a number of carriers and, in making their choices, will draw on their experience of their performance and also check the price. A service strategy of consistent accuracy and timeliness would seem to be appropriate.

The survey documented here had the relatively limited objectives of investigating buying decisions and one particular model. The limitations are recognized and accepted. The work does show, however, that in this market there is concern over relationships and it can be speculated that this relationship approach is becoming more important. The findings here, therefore, support the notion that buyer/seller relationships are important and that more importance is attached to service than to price in these relationships. The buyer/seller literature has not been examined in full here, but the current study has some links to the work of the IMP Group 33!, which could be usefully extended in future studies.

#### CONCLUSION

Studies of the buying decision making of organizations such as air freight forwarders are comparatively rare, despite the importance such intermediaries have in the marketplace. The study of air freight forwarding in the Scottish market reported here suggested that both task and non-task factors are important, and that the dominant buyclass is one of modified re-buy. In particular, it found that price is not the key determinant, although it remains an important one. This finding replicates similar recent findings in North America and, clearly, is of importance in understanding how to undertake business through such freight forwarders. In particular, it concluded that it is the total product offering which is crucial for long-term relationship building rather than any short-term promotional activity focusing on price. This is clearly associated with developments in relationship marketing and extensions to buyer/seller relationships.

By emphasizing the total range of the product offering, companies are better able to form more stable relationships. It is interesting to speculate about whether the introduction of new technology, particularly Electronic Data Interchange (EDI), will alter these relationships. By providing electronic links and increasing the opportunities for comparing operators, it will change the competitive situation and alter the buying behaviour of forwarders.

#### REFERENCES

1. Davies, G.J. and Gray, R., Purchasing International Freight Services, Gower, Aldershot, 1985.
2. Hastings, P., "A Tough Year for Traditional Operators", Financial Times, 4 December 1991.
3. Jeffrey, P.H., "JIT. Where Does it Begin and End?" Focus Institute of Logistics and Distribution Management, Vol. 6, December 1989, pp. 10-12.
4. McKinnon, A.C., Physical Distribution Systems, Routledge, London, 1989.
5. Worldshiper, "Flying for Survival": March/April 1990, pp. 17-20.
6. Institute of Logistics and Distribution Management, Report on the Market and Express Good Services between the UK and Europe, North America and the Far East, Institute of Logistics and Distribution Management, Corey, Northants.
7. "Tough Times for Traditional Carriers", Airtrade, October 1991, pp. 31-3.
8. McKenna, J.T., "Airlines Boost International Cargo Services to Protect Market Shares", Aviation Week and Space Technology, November 1989.
9. Smith, P., Airfreight, Faber and Faber, London, 1974.
10. Gates, A.C., "A Brief Introduction to Freight Forwarders", Institute of Freight Forwarders (IFF), London, undated.

11. "Key Note Report": Freight Forwarders, ICC Group publication, 1987.
12. Ross, D., "Air Freight", in Gattorna, J. (Ed.), Handbook of Physical Distribution Management, 3rd ed., Gower, Aldershot, 1983, Ch. 13.
13. Hutt, M.D. and Speh, W., Business Marketing Management, 3rd ed., The Dryden Press, New York, NY, 1989.
14. Webster, F.E. and Wind, Y., Organisational Buying Behaviour, Prentice-Hall, Englewood Cliffs, NJ, 1972.
15. Moriaty, W.R., Industrial Buying Behaviour, Lexington Books, MA, 1983.
16. Robinson, P.J., Faris, C.W and Wind, Y., Industrial Buying and Creative Marketing, Allyn and Bacon, Boston, MA, 67.
17. Mentzer, J.T., Gnomes, R. and Krapfel, R.E., "Physical Distribution Service: A Fundamental Marketing Concept", Journal of the Academy of Marketing Science, Vol. 17 No. 1, Winter 1989, pp. 53-62.
18. Shaw, A.W., Some Problems in Market Distribution, Harvard University Press, Cambridge, MA., 1915 (reprinted 1951).
19. Cook, W.R., "Transport Decisions of Certain Firms in the Black Country", Journal of Transport Economics and Policy Vol. 1 No. 3, 1967, pp. 325-44.
20. Brooks, M., "Limitations in the Carrier Choice Process", International Journal of Physical Distribution and Materials Management, Vol. 15 No. 3, 1985, pp. 38-45.
21. Cunningham, M.T. and Kettlewood, K., "Source Loyalty in the Freight Transport Market", European Journal of Marketing, Vol. 10 No. 1, 1976, pp. 66-79.
22. Saleh, EA. and La Londe, B.J., "Industrial Buying Behaviour and the Motor Carrier Selection Decision", Journal of Purchasing. February 1972, pp. 18-33.
23. Day, A., "Who Cares about International Freight?", International Journal of Physical Distribution and Materials Management, Vol. 21 No. 4, 1991, pp. 29-31.
24. Stock, J.R., "How Shippers Judge Carriers", Distribution World Wide, August 1976, pp. 32-5.
25. Anderson, R.D., Jerman, R.E. and Constatin, J.A., "Buyer and Seller Perceptions of Transportation Purchasing Variables", Industrial Marketing Management, Vol. 7 No. 1, 1978, pp. 60-4.
26. McGinnis, M.A., "Shipper Attitudes Toward Freight Transportation Choice", International Journal of Physical Distribution and Materials Management, Vol. 10 No. 1, 1979, pp. 25-34.
27. Davies, G.J. and Gunton, C.E., "The Buying of Freight Services: The Implications for Marketers", Quarterly Review of Marketing, Vol. 8, 1983, pp. 1-10.
28. Global Trade, "Pilot Air Freight Defines Quality Transport Services", Vol. 108 No. 7, July 1988, p. 20.
29. Murphy, P.R., Daley, J.M. and Dalenberg, D.R., "Selecting Links and Nodes in International Transportation: An Intermediary's Perspective", Transportation Journal, Vol. 31, 1991, pp. 33-40.
30. Maslow, A.H., Motivation and Personality, Harper & Row, New York, NY,

4/9/4 (Item 4 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

00592336 92-07509

The Precision Selling Payoff

Kirwan, John P., Jr.

Sales & Marketing Management v144n1 PP: 58-61 Jan 1992 ISSN: 0163-7517

JRNL CODE: SAL

DOC TYPE: Journal article LANGUAGE: English LENGTH: 4 Pages

WORD COUNT: 2375

ABSTRACT: In selling major accounts, salespeople should focus on how the customer will make a decision, rather than on what the sales strategy should be. Whatever the specific variations in the decision-making process, in almost every case it is important to get involved in the process as early as possible in order to influence key people. It also is important to acquire knowledge on competing companies, identifying their strengths and weaknesses. Once a strategy has been formulated, an action plan must be implemented. The action plan should detail what activities are to be undertaken, their purpose, who will accomplish them, and when the activity will begin and end. There are 3 strategic sales tools that are essential to the successful implementation of the precision selling process: 1. qualification, 2. needs analysis, and 3. testing the strategy.

TEXT: With today's multilevel organizations, unclear lines of management authority, and interwoven budgets, major account selling goes way beyond the one-stop sales call on a single decision maker. Instead, it involves repeated calls on a variety of customer contacts in different departments over a long period of time. And while the rewards of success may be many, they're often difficult to achieve because of the extensive time required and the likely presence of an army of competitors.

Given all this, how can you devise a way to successfully negotiate your way through the major account maze and pluck the shining prize? There is a way--and it's one that involves a minimum amount of wasted effort. The key is to get your salespeople to focus on how the customer will make his decision, rather than on what the sales strategy should be. Keep your sales people focused on the following steps, and you'll greatly increase their chances of success. We call this systematic approach "precision selling."

#### ACCOUNT "PERSONALITY"

Every organization has its own "personality." And just as any individual's personality and behavior are affected by a mixture of influences, so is an organization. An organization's personality is shaped by its history; the philosophy and direction of its founders and top executives; industry forces; its product(s), market(s), and competitors; and by financial, legal, and regulatory pressures.

But how do you uncover and understand an organization's personality? There are many sources of information, especially for publicly held companies. These include the company's annual report, 10-K reports filed with the Securities and Exchange Commission, articles from business and industry publications, investment company research reports, business school libraries, and on-line databases. And it doesn't take a lot of digging before a distinct personality emerges--enough so a salesperson can begin to gain some insight into why an organization acts the way it does.

#### THE DECISION-MAKING PROCESS

The first question your salespeople need to ask is "What decision is being made?" Unfortunately, many salespeople only focus on the secondary issue: "How will the successful vendor be selected?" For the customer, the more important concern is "How will my needs be met?" If a salesperson focuses strictly on vendor selection, he's all but asking to be included in the fight between competitors, to slug it out in the arena of price and features. Such an approach practically guarantees one of two results: reduced profit margins for the "successful" vendor or defeat at the hands of a competitor with a more strategic approach.

It can't be stressed too often that customers are primarily interested in having their needs met--whether it's to solve a problem, increase profits or market share, or penetrate new accounts or new markets. The successful vendor will uncover the need, find the real stakeholders within the customer's organization who have the greatest interest in satisfying that need, and convince them that its product or service can most effectively meet that need.

A related question that must also be addressed is "What are the steps in the **customer's** decision-making process?" What steps will the **customer** go through to satisfy his need? We know the two ends of the process: First, identify the need; second, implement the solution. In between are things like a request for **proposal** (RFP) and **vendor** selection. Unfortunately, the RFP stage is where many salespeople spend--and waste--a lot of time. The successful **vendor**, on the other hand, has probably spent time influencing the decision process long before the RFP itself is issued.

Our experience indicates that most major accounts go through the following steps in their decision process:

1. The need is identified. It could be an operational problem to be resolved, a financial need to be met, or an opportunity to be captured.

2. A feasibility study is conducted. This is to determine whether a particular problem can be solved--and if so, how? What are some potential solutions?

3. A business case is written. This should identify the need, suggest potential solutions, quantify the size of the problem and the solution, and outline a general plan of action.

4. The business case is presented for approval. This is sent to the appropriate levels in the customer organization, depending on the size of the problem, the size of the solution, the financial and human resources involved, and the impact on present corporate policies.

5. A project team is assigned. Most likely this will involve members with a vested interest in the solution, as well as those technically capable of seeking that solution.

6. Potential solutions are identified. This step could include a survey of possible vendors and their potential solutions.

7. Specifications are developed. Affected departments will provide their input to the technical members of the team (i.e., purchasing and engineering), who will develop the specs to which vendors will respond via the RFP process.

8. The RFP is issued. This should be sent to potential vendors.

9. Vendor proposals are evaluated. Once the RFP responses are received by the project team, they're evaluated, often against predetermined criteria. In some cases, there are weighting factors applied that allow for differences between extremely important and less important requirements. This process can also include live test demonstrations to make sure the product will perform as promised.



10. The vendor is selected. Once the project team makes its selection, they present it to upper management for approval. Assuming management approves the selection, the team is then authorized to begin negotiating with the vendor.

11. Final negotiations are conducted. Before notification of all vendors, the **selected** vendor will be approached to negotiate any **terms** or **conditions**, quantities, delivery dates, or items not covered in the RFP. In addition, the **selected** vendor may be asked to make additional concessions before the customer will sign the order.

12. The solution is implemented. The equipment is ordered, users are trained, the product is installed and accepted, and the vendor is paid.

It's important to note that this is the general practice by which customers meet their needs and select vendors. Obviously, this decision process varies from company to company, department to department, and project to project.

Whatever the specific variations in the decision-making process, in almost every case it's important to get involved in the process as early as possible in order to influence key people. Such key people include all those on the project teams, especially those who are most influential. It's just as important, however, to become involved with those executives who participated in the development and approval of the business relationship in the first place. They're the ones who have assigned the responsibility to the project team, and the project team will probably have to present their decisions to them for approval at several points during the decision process.

#### KNOWING THE PLAYERS

Once they know the steps in the process, you and your salespeople can begin to identify the players involved in each step. Players should be identified by name and title. More important, however, you'll need to know what their role is in the decision process. Are they in a department directly affected by your solutions? Will they have to use your product after installation? Do they control the funding for this project? Because of certain technical skills (i.e., engineering, purchasing, finance), will they be involved in evaluating your solution?

Next, for each of the key players, ask, "What are their decision **criteria**?" Each key player will have his or her own **criteria**, which may or may not be the same as those stated by the company. These **selection criteria** will include both business and personal needs. Business needs could include increasing profits, penetrating new markets, reducing employee turnover, etc. Personal needs are often more difficult to determine. Personal needs could include those of a manager who doesn't want to "rock the boat" a year before he's eligible for retirement, or of a newly hired manager trying to make a name for himself.

Finally, your salespeople ought to be able to tell you whom you're competing against. This isn't just a matter of compiling a list of all the companies competing against you for this opportunity; you'll also need to know who in the customer organization might favor each competitor--and why. You should also know what your competitors' strengths and weaknesses might be in competing for this opportunity. These include things like product features, price, delivery, or even less tangible factors such as an ongoing favorable relationship with the account.

Once you know your competition, it's time to put yourself in their shoes: What would you do if you were them? Who would you call on in the customer organization? What would you say? What would your strategy be?

#### FROM STRATEGY TO ACTION

Now that you know about the customer's decision process, the key players,

their roles, their decision criteria, and your competitors' position, what's next? Obviously, it's time to develop a sales strategy. Specifically, your strategy should include the following considerations:

- \* Have you made contact with all the key players--particularly those involved in the early stages of the decision process? If not, how will you get in to see them? And when you do get in, what do you want to say?

- \* Do you understand all the business, technical, political, and personal issues involved in this project? If not, how will you uncover them? And once you understand them, what will you do to overcome any obstacles and successfully influence the key players?

- \* Do you know what your competitors' strengths, weaknesses, and strategies are? If not, how will you find out? If you do understand the competitive issues involved, what's your competitive strategy? How do you intend to exploit your competitors' weaknesses, neutralize their strengths, counter their strategies, and position yourself favorably with the customer?

In other words, once you've formulated a strategy, how will you make it happen? That's the job of the action plan--it's a road map to make your strategy work, a sequence of tasks and activities required to get the order. It tells everyone involved in the project who does what, to whom, and when. Some examples of activities to include in an action plan might be:

- \* A tour of your design, engineering, or manufacturing facilities to demonstrate your company's commitment to customer support, quality, etc.

- \* A technical briefing to convince the customer of your commitment to technology and future direction.

- \* A visit to the customer's top management by your top management to assure the customer that your company stands behind the product or service you've proposed.

- \* A needs analysis or survey by your company to determine in greater detail how the customer might benefit in applying your product.

The action plan should spell out what activities should be undertaken, their purpose, who will accomplish them, and when the activity will begin and end. Once you've developed the action plan, take a step back and ask yourself, "If we do all these things, will we get the order?" If the answer is no, or even maybe, take another look at your strategies and your action plan, fine-tuning them until you can answer yes.

#### PUTTING YOUR PLAN INTO EFFECT

There are three strategic sales tools that are essential to the successful implementation of the "precision selling" process: qualification, needs analysis, and testing your strategy. Here's how they work.

1. Qualify the opportunity. If you haven't noticed by now, winning major sales takes a lot of time and effort. It's important, therefore, that you constantly ask yourself if the probability of the sale is worth the required time and effort. Many salespeople assume that qualifying an opportunity is only done at the beginning of the sales process. On the contrary; by asking tough questions throughout the process, you'll find out if you're on track and, if not, how you can get back on.

Some questions to ask in order to qualify the opportunity:

Are there identified needs?

Is key management aware of these needs?

Is there a compelling business reason to take action?

Are the key people willing to give us time and information?

Is the decision maker available to us?

Has funding been identified?

Is there a pressing business reason to act?

Does this opportunity match up well against our strengths?

Does our solution answer the customer's needs?

Is our solution competitive?

Have we established credibility and confidence with the customer?

Are key people biased toward us?

2. The needs analysis. This is an important opportunity, not only to uncover needs but to match them to your solution and put a dollar value on otherwise soft benefits. This analysis is conducted with the customer's full cooperation and involvement. It's an opportunity to meet with all the stakeholders in the decision process, including top management. The customer views your approach not as that of the traditional "hardware huckster" but rather as that of a "consultant." While you're there, however, you have an opportunity to meet key players, ask questions, listen, and mutually develop solutions. For major account selling, this kind of subtle approach can be highly effective.

In planning the needs analysis, it's also important to note that it's not a mere "bean counting" exercise delegated to a technical person in order to design and configure your solution. Neither is it confined to lower level positions within the customer organization. It's truly a strategic sales tool.

3. Test your strategy. Don't miss the opportunity to test your strategy and action plan with other members of your sales team. Everyone involved should understand the strategy, what's required of them, and how their efforts fit into the total plan. Then, not only will they be able to perform their role more effectively, they can also suggest ideas and strategies you may have overlooked. And the fact that they participated in the development of the plan will give them a sense of "ownership" that will increase their level of commitment to the plan and the process.

Winning major sales is a high stakes game requiring skill, intelligence gathering, strategy development, and patience. By applying a systematic, precision selling approach to the process, however, you can cut down considerably on the odds.

John P. Kirwan, Jr., is president of Kirwan Assoc. Inc., a Richmond, Va.-based consulting and training company specializing in major account selling, planning, and management.

THIS IS THE FULL-TEXT. Copyright Bill Communications 1991  
GEOGRAPHIC NAMES: US

DESCRIPTORS: Personal selling; Accounts; Decision making; Techniques  
CLASSIFICATION CODES: 9190 (CN=United States); 7300 (CN=Sales & selling)

00800089 94-49481

What are purchasers looking for in managed care quality?

Lipson, Edward H

Topics in Health Care Financing v20n2 PP: 1-9 Winter 1993 CODEN: THCFDG

ISSN: 0095-3814 JRNL CODE: THC

DOC TYPE: Journal article LANGUAGE: English LENGTH: 9 Pages

SPECIAL FEATURE: Charts Equations References

WORD COUNT: 3635

ABSTRACT: Spurred by competition and the growth of managed care, providers are seeking new approaches for satisfying the needs of health care purchasers. Increasingly, these purchasers are focusing on the value of managed care arrangements, especially the degree to which they manage quality. Underlying the emerging focus on quality are concerns about "undercare," potential legal liability, and the economics of quality. Purchasers are sensitive to the quality of service and the experience of their patients, as well as the clinical quality of the care they receive, and many employers are now engaged in a systematic effort to assess both of these dimensions of quality. The emergence of national data banks, practice standards, and accreditation programs offers additional tools for strengthening provider accountability for quality. Many purchasers are aggressively pursuing continuous quality improvement in their core businesses and note the application of these industrial models to health care settings. To date, most total quality management activities are occurring in hospitals.

TEXT: Spurred by competition and the growth of managed care, providers are seeking new approaches for satisfying the needs of health care purchasers. Increasingly, these purchasers are focusing on the value of managed care arrangements, especially the degree to which they manage quality. Underlying the emerging focus on quality are concerns about "undercare," potential legal liability, and the economics of quality. Purchasers are sensitive to the quality of service and the experience of their patients, as well as the clinical quality of the care they receive, and many employers are now engaged in a systematic effort to assess both of these dimensions of quality. The emergence of national data banks, practice standards, and accreditation programs offers additional tools for strengthening provider accountability for quality. Key words: managed care; credentialing; quality monitoring.

In today's competitive environment, providers increasingly seek to maintain or improve market share by understanding and meeting the needs of employers and other purchasers. While some purchasers contract directly with providers, most prefer to negotiate with a third party to obtain the key features of managed care. To complicate matters, the employer may rely on an employee benefits consultant or broker to help select a managed care vendor. Thus, providers that wish to compete successfully must understand the motivations and methods of a diverse set of players.

This chapter focuses on purchaser concerns about managed care quality and approaches to selecting managed care programs. Providers may then use these insights to judge the likely success of managed care organizations in attracting subscribers and guide development and marketing of quality management initiatives.

#### VALUE IN MANAGED CARE

There is no question that the skyrocketing cost of health care benefits has driven many purchasers to offer a wide spectrum of managed care programs.

Increasingly, however, purchasers are taking a broader view and focusing on value, not just cost.

The concept of value represents the relationship of quality to cost as shown in the following equation:  
(equation omitted)

(where V = value, Q = quality, and C = cost).

Many observers assert that the focus on value will be the driving force for change in the U.S. health care system in the 1990s. A corollary is that purchasers will increasingly focus on the value of managed care arrangements, especially the degree to which they manage quality.(1)

#### PURCHASER'S INTEREST IN QUALITY

Three key issues underlie purchasers' interest in managing quality:

1. "Undercare." In its drive to eliminate waste and "overcare" in the traditional fee-for-service health care system, managed care might lead to "undercare," where appropriate or needed care will not be provided.

2. Legal liability. By providing incentives for employees to use selected providers, purchasers might be vulnerable to claims of responsibility for medical negligence. In addition, utilization review techniques might create purchaser liability for injuries alleged to result from premature hospital discharge.

3. Economics of quality. Improving quality makes sense from an economic point of view. Based on experience in their own industries, purchasers believe that "doing it right the first time costs less." While there are no large-scale studies of the health care industry to support this contention, most health care quality experts can cite ample supporting evidence. For example, hospital-acquired infections represent suboptimal quality and also contribute to increased resource use in the form of longer lengths of stay, more drugs, and more laboratory tests.

In addition to these general perspectives, purchasers are concerned with the specific methods used by vendors to manage quality. After all, some managed care programs are quite new and have a spotty track record. Careful selection is essential with employee relations at stake, and it's difficult to switch managed care options once they are offered. Moreover, many employers are reaffirming their commitment to quality in their own core businesses and require similar commitments from their vendors--including suppliers of health care services.

#### DEFINING QUALITY

A frequent complaint from purchasers is that everyone seems to want quality in health care, but no one can define it. Part of the problem is that the attributes of quality depend on the point of view of the observer, as shown in Table 1-1. (Table 1-1 omitted)

In spite of these differing perspectives, it is possible to define certain common characteristics of quality of care, as shown in Table 1-2. (Table 1-2 omitted)

Historically, providers have not been organized or had the tools to systematically demonstrate these quality characteristics. Purchasers hope that managed care networks will be able to access data from large populations to draw conclusions about the efficacy and effectiveness of medical treatments and communicate this quality information to network providers. Because there is an enrolled population, statistics can be developed that require a known denominator for determining incidence rates (e.g., perinatal complications per 1,000 members).

On a more narrow scale, managed care networks are now requiring their

... physicians to cooperate with certain quality standards.

For example, the vendor can require that the physicians notify it if a problem at the hospital results in a limitation of privileges. The vendor can also require cooperation in gathering quality monitoring data.

#### IDENTIFYING QUALITY IN MANAGED CARE

Given differing perspectives on quality and obstacles to program implementation, what are purchasers looking for to assess quality in a managed care network?

The quality of caring

How employees experience the health care services that they receive is a major indicator of quality. Four key elements that define this experience include:

1. Access and convenience How close are network providers to the employee's residence and place of work? What is the fit between historical claims and the network's roster of providers? Will a large percentage of employees need to switch primary care physicians to use "in network" services? Are the physicians listed in the provider directory available to receive new patients or are their practices closed? Is there a high turnover rate of network providers?

2. Scope of service What services are provided by the network, in addition to traditional illness care? Are wellness/health promotion/disease prevention services an integral part of the network services and are physicians supported and trained in this aspect of care? Are there specialized centers of excellence for transplants and other complicated procedures? Are there adequate numbers of specialty physicians in most of the recognized medical specialties?

3. Customer orientation Does the network place a premium on serving members promptly and courteously? How is this orientation transmitted to network staff and providers?

4. User-friendliness Most managed care networks have several administrative systems that must work together to provide a high level of service. Does the network have systems that minimize member confusion? For example, can the member call one telephone number and access all areas of the network's administrative services?

It is important for any managed care organization to access its success in "quality of caring" by systematically monitoring the satisfaction of its members. Managed care plans often use a periodic written survey of a random sample of members or focus groups for this purpose. The purchaser may ask for the results from several recent surveys and ask how the network has used these results to correct any reported deficiencies.

When things go wrong, it is essential for the network to have an effective mechanism for resolving disputes. An informal complaint tracking mechanism should be an integral part of the member services function, so that inquiries can be tracked and resolved before they become formal grievances.

The formal grievance mechanism should provide a well-described pathway for both members and providers to resolve their concerns. The vendor should have a method for logging and tracking, and a committee structure should be in place to judge the validity of these complaints.

The clinical quality of care

Purchasers are increasingly asking detailed questions about the processes used to select, credential, and reappoint network providers.

Provider selection

How does the network target quality providers for network membership? Often, it is not possible to determine provider practice patterns in advance; however, some vendors have established provider profiles based on historical claims data to aid in the selection process.

Provider credentialing

After a physician or hospital has been targeted for network membership, what process is followed to verify their credentials?

#### Hospitals

Most managed care organizations rely on the accreditation process of the Joint Commission on Accreditation of Health Care Organizations (Joint Commission). In addition to verifying accreditation status, some networks are asking for a description of planned corrective actions for the most significant (i.e., type I) recommendations. In addition to verifying the network's formal hospital credentialing process, the purchasers may develop some impression of a hospital's quality through reports from employees and other informal mechanisms.

#### Physicians

Cautious purchasers closely scrutinize the physician credentialing process, beginning with a review of the application document. Does the application request information on personal health, education and training, hospital privileges, and malpractice history? Does the application require the physician to answer a series of yes/no questions regarding limitations or suspension of privileges, suspension from government medical programs, suspension or restriction of drug license, malpractice insurance cancellation, felony conviction, drug or alcohol abuse, and chronic or debilitating illnesses? Does the network independently verify: unrestricted medical license, drug certificate, malpractice insurance in force at specified limits, hospital privileges, malpractice history, and board certification?

Some purchasers request that the network check the National Practitioner Data Bank as part of the credentialing process. There are limitations on the ability of managed care organizations to access this information, but they may be able to require that physicians provide a report from the data bank as part of the network credentialing process.

The Public Citizen Health Research Group (Washington, D.C.) has received wide publicity for its national database of physicians that have been publicly disciplined. In addition, the Medicare program releases information on physicians who have been barred from participation. Purchasers may ask whether these data sources are used in credentialing because of inquiries from their employees.

Purchasers may also ask about notification requirements in the provider contracts. For example, is a physician required to promptly notify the managed care network if the physician's privileges were restricted at a hospital?

Some managed care networks include practice site reviews as part of the credentialing process. In order to qualify for network membership, must a physician meet certain facility standards (e.g., adequate parking, sick and well reception areas, handicapped access) as well as clinical standards (e.g., disposal of hazardous waste, security of controlled substances)?

After the initial credentialing process, is there a periodic reappraisal of physician credentials? In addition to obtaining an interim health and malpractice history from the physician, does the network use reports that profile individual provider practices to support the reappointment decision? Are member grievances, peer review decisions, and other clinical monitoring reports included in these profiles?

In summary, purchasers view the initial credentialing and ongoing

reappointment processes as critical activities for promoting quality in the provider network. They also expect careful screening of applicants as a hedge against possible future claims of negligence in selecting providers. This is particularly important in light of a 1988 study that found that 5 percent of physicians applying for clinical positions in a national ambulatory care program presented false clinical credentials. (2)

#### Case-based clinical quality monitoring

How does the network monitor quality of care? Are individual cases of potentially poor quality identified and evaluated by network personnel? Are these cases analyzed by a peer review committee and discussed with the physician and are disciplinary actions taken if necessary?

#### System-based clinical quality monitoring

Is there an effective system for monitoring and evaluating the managed care network's quality management (QM) program? Does the network have an effective system for examining care, uncovering problems and opportunities for improvement, and correcting them?

Sophisticated purchasers seek a monitoring program that can identify trends so that care can be constantly improved. For example, if a hospital's admission rate for uncontrolled hypertension exceeds a defined level, what steps are taken to determine the underlying causes and reduce the rate below the threshold? For a Cesarean section rate of 24 percent, approximately the national average, what steps are needed to reduce the rate to 18 percent?

Robust data systems are necessary for an effective quality monitoring program. Many managed care programs, however, have developed their claims systems in an indemnity environment and these systems are not always well suited to capturing diagnostic and outcome-of-care data. What enhancements have been made to the network's data systems to meet purchaser reporting requirements?

#### Risk management

The goal of risk management is to protect the vendor-and potentially the purchaser--from losses and, in concert with the QM program, to identify and reduce the risk of patient injury associated with care. Traditionally, risk management activities have been strongest in hospitals, but the increasing volume of outpatient care requires an extension of these activities.

Does the managed care network have a well-conceived risk management plan that is integrated with the quality monitoring program and involves physicians in the loss and injury prevention process?

#### Corrective action

While purchasers seek to avoid guaranteeing the quality of care provided to their employees, they expect that if network quality monitoring has identified problems, effective action plans will be developed. For findings involving an individual provider, does the network have a peer review committee structure that offers the provider an opportunity to respond and provide additional information? After thorough review, if the care provided is below network quality standards, can the provider appeal the decision?

For findings that are based on aggregate data from the quality monitoring program, can the network show that the reasons for the problem have been investigated, improvements implemented, and the effectiveness of the improvements monitored?

#### EVALUATING MANAGED CARE QUALITY

The challenge for the purchaser is to assess whether the various aspects of quality discussed are present in the managed care network and how



rigorously they are being executed. For many purchasers, this assessment includes a structured evaluation process.

#### Timing

A quality assessment can be performed at various points in the managed care development cycle, beginning with the initial vendor selection. For example, the purchaser's request for proposal can include a comprehensive quality section.

Another point for quality assessment is during implementation. After the vendor has been selected, the purchaser may initiate an in-depth evaluation of the quality programs, including an on-site audit.

Finally, the purchaser may wish to develop an ongoing monitoring program that will provide useful quality information prior to renewal.

#### Quality evaluation process

Purchasers usually chose to limit their direct involvement in the evaluation of a QM program because they lack the clinical perspective necessary to judge these programs. Furthermore, direct involvement might have the paradoxical effect of increasing liability exposure. Clinicians and other health care delivery system "insiders" may be enlisted to aid the evaluation process by collecting information and assisting purchasers to interpret the findings.

Typically, the process for evaluating managed care networks has two phases: document review and on-site evaluation.

#### Document review

In this phase, a careful review of the vendor's quality plan documents is conducted. Descriptions and supporting documents that are reviewed include the following:

##### provider selection criteria;

\* provider applications; \* description of the credentials verification process; \* description of the reappraisal of credentials process; \* review of provider contracts, with emphasis on the sections dealing with provider notification requirements, and obligations to participate in the quality monitoring program; \* the QM plan; and \* a description of the database that supports the QM program.

#### On-site evaluation of network operations

Eight steps are taken in this phase to assess the network's systems:

1. A sample of physician credentials files are reviewed for completeness and independent verification of key items.
2. Applicant disapproval and termination rates are assessed to determine the strictness of criteria in terms of the percent of providers denied participation.
3. Key personnel are interviewed to establish their qualifications and knowledge about their jobs.
4. Data collection efforts are observed. For example, if quality indicators are entered into medical management screens, the process and method for determining appropriate indicators is assessed.
5. Quality monitoring activities are reviewed and discussed with the medical director and network QM staff.
6. An extensive interview is held with the network medical director. The medical director is the key to an effective QM program and his or her

insights and skills in program implementation are critical to the success of the QM program. The highest yield from the medical director interview can be obtained if the interviewer is another physician.

7. The minutes from peer review proceedings, quality monitoring committees, and grievance committees are reviewed.

8. Vendor surveys of member satisfaction are discussed with appropriate network staff, and plans for corrective action are reviewed. Grievance tracking reports and informal complaint resolution procedures are evaluated.

#### EMERGING TECHNIQUES

In the future, purchasers will intensify their efforts to evaluate the quality of their managed care vendors. These vendors, in turn, will have more sophisticated tools for monitoring and managing quality. Some of these tools are currently available but not fully developed or implemented in the managed care context. Other tools are just being developed, particularly in the data area:

##### National practitioner data bank

The Health Care Quality Improvement Act of 1986 established a national clearing house for physician credentials. The data bank began operation on September 1, 1990, with Unisys as the vendor. The primary focus of the data bank is to collect information on physician malpractice and adverse credentialing decisions. Hospitals and malpractice carriers are required to report credentialing information to the data bank. Some managed care organizations are required to report to the data bank but only health maintenance organizations (HMOs) can request information.

Currently, the information contained in the data bank is limited. As reporting increases, the data bank may become a useful tool for managed care credentialing, especially in checking a physician's practices in another state. To expand its utility, guidelines for accessing the data bank will need to be relaxed to include managed care networks that are not licensed as HMOs.

##### Practice standards

Purchasers are now bombarded with mail, articles, and conferences on provider-generated practice standards, protocols, and guidelines. Purchasers generally support providers' desire to judge effectiveness by examining the clinical outcome of care and the development of practice standards as the benchmark for making these judgments.

Some physicians have labeled practice guidelines as "cookbook" medicine. They also fear that care that deviates from the protocols might increase their exposure to malpractice claims. While these are legitimate concerns, there is growing evidence that the use of practice standards actually reduces malpractice exposure because the physician can use adherence to the protocols as evidence that care was planned according to generally recognized professional standards.

Although debate continues within the medical profession, purchasers expect to see continuing refinement and implementation of practice standards and protocols as important tools for managing quality in managed care networks. (3)

##### External accreditation programs

It might simplify the selection process for purchasers if nationally recognized and validated accreditation standards were developed for managed care programs. The Joint Commission began a managed care accreditation program in 1988 but abandoned the effort in 1990.

The National Committee for Quality Assurance (NCQA) currently offers an

accreditation program. The NCQA was founded in 1979 as a joint effort of the Group Health Association of America and the American Association of Foundation for Medical Care. After reorganization in 1990, the NCQA expanded its program of 'voluntary accreditation for HMOs, with emphasis on QM systems. Several large, carrier-based managed care networks currently are participating in the NCQA accreditation program.

In reality, the diverse needs of different purchasers and the local and regional variations in medical practice make it unlikely that accredited status could serve as the sole basis for selection of a managed care plan. As accreditation programs evolve, they may provide a useful starting point for managed care evaluation. Accreditation might be a necessary but not sufficient basis for a purchaser to select a managed care program.

#### Improved data collection and trending tools

As managed care plans become more sophisticated at integrating claims and medical management systems, purchasers expect to receive better reports of aggregate quality performance. These reports should reflect the evolution from quality monitoring that focuses on identification of "bad apples" to the continuous improvement of systems for taking care of members.(4)  
Total quality management

Many purchasers are aggressively pursuing continuous quality improvement in their core businesses and note the application of these industrial models to health care settings. To date, most total quality management (TQM) activities are occurring in hospitals. In the eyes of the purchaser, the leading edge managed care program will be the one that succeeds in implementing a comprehensive TQM system in a managed care context.(5)

#### REFERENCES

1. For an overview of value purchasing, see Couch J.B. "The Era of Medical Care Value Purchasing and the Role of Physician Executives." In Health Care Quality Management for the 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
2. Schaffer, W.A., Rollo, F.D., and Holt, C.A. "Falsification of Clinical Credentials by Physicians Applying for Ambulatory-Staff Privileges." New England Journal of Medicine 318, no. 6 ( 11 February 1988): 356-58.
3. For a review of issues relating to practice standards, see Eddy D. "The Role of Clinical Practice Policies in Quality Management." In Health Care Quality Management for the 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
4. For a review of issues relating to data management, see Caper P. "Population-Based Measures of the Quality of Medical Care," and Pine M. "The Use of Large Databases to Monitor and Manage the Quality of Health Care." In Health Care Quality Management for 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
5. For a useful critique of TQM applications in managed care, see Jennison, K. "Total Quality Management--Fad or Paradigmatic Shift In Health Care Quality Management for the 21st Century," edited by J.B. Couch. American College of Physician Executives, 1991.

4/9/2 (Item 2 from file: 15)  
DIALOG(R) File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

00733729 93-82950

The buying behaviour of air freight forwarders

Lillie, Mark; Sparks, Leigh

International Journal of Physical Distribution & Logistics Management

v23n1 PP: 14-22 1993 CODEN: IPDJAX ISSN: 0960-0035 JRNL CODE: IPD

DOC TYPE: Journal article LANGUAGE: English LENGTH: 9 Pages

SPECIAL FEATURE: Charts References

WORD COUNT: 5976

ABSTRACT: An examination is made of the buying behavior of air freight forwarders in Scotland. Personal interviews and questionnaires are utilized to discover the opinions, behavior, and needs of freight forwarders when purchasing the services of an air carrier. The results suggest that both task and non-task factors are important. In particular, it is found that price is not the key determinant, though it remains an important one. It is concluded that it is the total product offering that is crucial for long-term relationship building rather than any short-term promotional activity focusing on price. This is clearly related to developments in relationship marketing and extensions to buyer-seller relationships. By stressing the total range of the product offering, companies are better able to form more stable relationships.

TEXT: The air cargo industry is of global and increasing importance. Davies and Gray 1! estimate that over 8 million people are employed worldwide in forwarding services alone. The role for fast, efficient and effective freight services seems assured, expanded by technological advances. As international or global business and sourcing increases, the need for such services expands further. With such a scenario it is, therefore, of little wonder that there are a large number of service providers and that the choice or buying decision between them is of increasing importance.

The aim of this article is to present the results of an investigative study into the buying behaviour of air freight forwarders and to link this work with theoretical models of buying behaviour. To meet this aim, the article is structured into five main sections. First, the air freight market itself is discussed. Second, various models of decision-making and buying behaviour are introduced and examined and a model for empirical examination suggested. Third, the methodology of the primary research is outlined, with the results presented in section four. Finally, conclusions are drawn.

#### THE AIR CARGO MARKET AND FREIGHT FORWARDING

In understanding the buying behaviour of freight forwarders it is necessary to focus their role within the distribution chain. The concept of transporting goods by air is as old as aviation itself. Today's marketplace, together with rapid technological developments, instant communications, just-in-time production systems and intense competition to add value, provides a climate in which air freight prospers. However, as with other industries the air cargo sector has suffered over the past decade, due to world trade recession, additional security requirements and intense competition 2!.

The importance of air cargo in distribution terms, however, is assured. Over the past decade there has been widespread destocking arising from the withdrawal of tax relief on stock appreciation and sharp rises in interest rates. The continuing diffusion of just-in-time (JIT) and supply chain management systems further benefits the air cargo industry. As

manufacturers adopt a JIT philosophy, with the objective of eliminating all noncontributing resources, products previously held in stock in a variety of locations may now be demanded urgently for next day delivery from one central location. Thus, the speed and services of air cargo are increasingly being demanded 3!. As McKinnon notes, "the suppression of inventory levels is . . . promoting the growth of express freight services" 4, p. 261!. The higher costs of air freight are thus offset by the inventory reduction and savings in other functional areas, and the higher service level provided. At the same time, there is an increasing use of technology to improve performance throughout the industry.

There are two main approaches to air cargo services. The first involves carriers collecting packages, shipping them on their own aircraft and then delivering them. These are the integrated carriers. This differs from the traditional system in which freight forwarders collect packages, consolidate them, deliver them to a selected air carrier for flight and then collect the packages at the other end for delivery (see Figure 1). (Figure 1 omitted) While traditional air cargo has maintained a 7 per cent annual growth rate worldwide, the real growth area has occurred in the air express sector, at rates estimated between 25 and 40 per cent 5,6!. The success of integrated carriers such as TNT and Federal Express arose, in part, from a direct attack on the perceived weakest points of the traditional air cargo industry: namely, an inability to provide shippers with upto-date information concerning the status of their goods, and an inability to move goods as swiftly on the ground as in the air 7!.

Airlines are expanding and improving their cargo services in an attempt to defend their share of the market, from both integrated carriers and other traditional cargo carriers 8!. Many carriers previously regarded cargo services as merely a by-product of operating passenger services. They recognize, however, that revenue can be maximized through air cargo. As Smith suggested: "Air freight makes a significant net contribution to the profitability of airline services, even after deducting all the additional costs incurred to earn it" 9, p. 50!. The ability of airline carriers to defend their market share rests on the establishment of closer relationships with their "natural" partner, the freight forwarder. This partnership between carrier and freight forwarder is recognized and Davies and Gray suggest that "95 per cent of all air freight is handled by air freight forwarders" 1, p. 106!, although this figure is reduced today by competition. McKenna describes freight forwarders as the air carriers' "front line troops in the battle against integrated express carriers" 8, p. 125!. Within this "natural partnership" and "battleground", therefore, a critical issue for freight forwarders arises in their selection of airline services to use. This buying behaviour is the subject of the present study.

The term "freight forwarder" encompasses a wide variety of organizations which offer services to shippers. An appropriate definition is hard to find, with even the Institute of Freight Forwarders (IFF) finding this task challenging:

The freight forwarder's--formally termed the shipping or forwarding agent--initial role was one of "arranger" of international transport services, finding space for a shipper's export cargoes. In recent years this role has expanded encompassing the co-ordination of transport documentation, custom clearance and other such ancillary services 10!.

Despite the variation of services offered by individual freight forwarders, several core activities generally undertaken can be highlighted 11!:

- (1) The arrangement of the carriage of freight and payment of charges.
- (2) Consolidation of air freight.
- (3) Advice on routing regarding reliability, cost and security.
- (4) Undertaking related documentation.

(5) Arranging customs clearance.

Ross 12, p. 232! describes the activities of the freight forwarder as:

assembling small shipments into single large consignments which are passed on to an airline in the name of the freight forwarder as shipper. This involves receiving individual packages from different shippers and consolidating them, for subsequent despatch, but not necessarily by the first available service. Consolidated assignments are then disassembled at destination, or at a convenient intermediate point en route, and individual consignments reforwarded to destination. Increasingly, technology is an integral part of this.

In combating the rise of the integrated carrier, therefore, freight forwarders need to work closely with airlines to provide the most appropriate service for their customers. This involves them in purchasing services and it is the decision making in this activity that is considered here.

#### MODELS OF DECISION-MAKING AND BUYING BEHAVIOUR

Hutt and Speh 13, p. 18! define organizational buying behaviour as "the decision making process by which formal organizations establish the need for purchased products and services and identify, evaluate and choose among alternative brands and suppliers". Several theoretical models exist which attempt to clarify and explain a buyer's behaviour within the procurement process. On a broad perspective, these models may be categorized as task, non-task and complex models 13-15!.

##### TASKS MODELS

A variety of task models exist, which focus primarily on the economic factors of any decision. Though considerations of constrained choice and reciprocity can be included, the emphasis on economic factors in task models invalidates their application alone to the buying decision of freight forwarders, as other factors are likely to exist. These models are incomplete as descriptions of buying behaviour in formal organizations, because rationality and simplicity cannot be assumed.

##### NON-TASK MODELS

"Non-task orientated models introduce human beings into the description of organizational buying behaviour" 14, p. 16!. The influence of human factors such as personal satisfaction and status, risk minimization and individual buyer/seller relationships can be anticipated as being important in the process of freight forwarders selecting an air carrier. Task variables alone and non-task issues are not enough, so too are non-task issues alone insufficient, as degrees of rationality might be expected in freight forwarders' purchase decisions. Thus, as Webster and Wind assert "ideally our model of the organizational buying process would include individual, group and environmental variables and both task and nontask considerations" 14, p. 20!. Complex models provide a means of simultaneously combining task and non-task variables.

##### COMPLEX MODELS

Robinson et al. 16! introduced an empirically-based twodimensional model, namely the "Buygrid model". This model distinguishes three different forms of buyclass:

- (1) Buying situations, namely new task.
- (2) Modified re-buy.
- (3) Straight re-buy.

In new task buyclass a need is perceived to be totally different from

previous needs and, consequently, a substantial quantity of information is necessary to investigate alternative ways of satisfying the need and finding potential suppliers. Industrial marketers confronting a buyer within a new task-buying situation may obtain a significant advantage over other suppliers by participating in the initial stages of the procurement process.

In the modified re-buy buyclass, organizational buyers, despite having well-defined criteria designed to satisfy their need, believe it may be advantageous to re-evaluate alternatives. When encountering a **buyer** within a buyclass of modified re-buy, the direction of a **supplier's** marketing effort is dependent upon whether the **supplier** is an "in" or an "out" **supplier**. An "in" **supplier**, i.e. a **supplier** who has already established a working relationship with the **buyer**, must both understand and satisfy the **buyer's** procurement process and move them into a straight rebuy situation. An "out" **supplier**, i.e. a **supplier** who currently does not deal with the prospective **buyer**, may increase their appeal to the **buyer** through offering guarantees as part of the **proposal**, thus decreasing the perceived risk of buyers to employ a new **supplier**.

A straight re-buy buyclass is seen to occur when there is a recurring requirement of one buyer upon a supplier. The decision process engaged by buyers within this buyclass may be described as routinized response behaviour. Unlike the above buying situations, buyers within a straight re-buy have both well-developed **selection criteria** to apply to the purchase decision, and have a strong predisposition towards one supplier's offerings. Again, the direction of the marketing effort appropriate to this buyclass is dependent on whether the marketer is an "in" or an "out" supplier. "In" suppliers should attempt to strengthen their relationship with the buyer, satisfying their requirements and continually monitoring the buyer's present and future needs. "Out" suppliers face a substantial obstacle in that they must convince the buyer that benefits outweighing any perceived risk of employing a new supplier may be gained by re-evaluating alternatives and switching to a new supplier.

Theoretical models elucidate the importance of understanding the buyclass of prospects. We might expect the situation to vary among freight forwarders and over time, but it would seem likely that most freight forwarders would be in either the straight re-buy or modified re-buy class, and this is investigated later. It is now necessary to review models related to the purchase of freight transportation services.

The importance of physically distributing goods has long been acknowledged. Mentzer et al. 17! cite the early work of Shaw 18! who noted a shift in emphasis from a view where distribution was seen merely to satisfy needs, to one where distribution became regarded as a measure of a supplier's performance. Despite over 70 years of discussion, instilling the importance of physical supply in the academic forum 17!, only recently has the full significance of physical distribution been recognized within industrial circles 4!.

The same product may elicit very different buying behaviour in different organizations. To understand this phenomenon the determinants of buyer behaviour, such as a company's buyclass, must be investigated. Several studies have analysed the buyclass of buyers of freight transportation services. Cook 19! examined the buyclass of transportation buyers, specifically looking for straight re-buy situations, and concluded that positively confirmed expectations (situations where the firm's performance exceeds customer expectations), did cause an increase in repurchase. Brooks 20, p. 3! states that "a satisfied purchaser of freight services will merely choose the carrier chosen 'last time', i.e. a straight re-buy situation and will not engage in prolonged decision making". Similarly, Cunningham and Kettlewood 21! conducted a study exploring straight re-buy buyclasses in freight transportation purchase decisions within Scotland, and emphasized their significance. In contrast, Saleh and La Londe 22!

stated that 94 per cent of the companies they studied were in a modified re-buy buyclass.

The differences of opinion concerning the buyclass of buyers of eight transportation services is seen by Day 23! as a paradox. Day explains that though buyers may claim they seek a strategic partnership with a supplier, i.e. a straight re-buy situation, in reality their buyclass may be one of new task, as empirical research suggests that "shippers prefer to seek individual specialists and enter into short term contracts" 23, p. 30!.

Stock 24! partially addressed the subject of **selection criteria** in carrier decisions. Anderson, et al. 25!, in a more detailed study of the perceptions of shippers and carriers, identified "differences" between a carrier's assessment and the actual importance shippers assigned to specific **criteria**. The three major dimensions of **criteria** appraised by shippers in this study were identified as relating to the carrier's "technical ability", "service orientation" and general "image". This study, however, was not specific to air transport.

McGinnis 26! provides an extensive list of **criteria** used by shippers in their **selection** of a carrier. Moreover, this study attempts directly to identify the relative importance of specific **criteria**. The three variables considered to be of greatest importance are, in rank order, speed plus reliability, rates, and the security and safety of freight. Davies and Gunton 27! note criticism of this list, questioning its validity in a trade recession.

The literature, to date, has therefore primarily investigated the **criteria** used in the process of **selecting** a carrier. However, the subject of investigation has invariably been the shipper and not the freight forwarder. An exception is a commercial research project undertaken by Pilot Air Freight. This project investigated customers', including freight forwarders', buying behaviour when **selecting** air carriers. However, due to the commercial significance of these results, further details are not available 28!.

More recently, American results from a study that incorporated freight forwarders 29! indicated that "situational" considerations play a key role in choice decisions. Price was less important to freight forwarders than anticipated. The authors concluded with a plea for more research among non-shipper groups such as freight forwarders.

Apparently, no empirical UK study has yet investigated the buying process of freight forwarders selecting a carrier for air freight. However, a "general" model investigating the needs of industrial buyers of freight transportation services has been developed, and is discussed below.

#### A GENERALIZED MODEL

Davies and Gunton 27! unified previous models into a generalized model which applies the needs of buyers of freight transportation services to Maslow's "hierarchical model of needs" 31!. Davies and Gunton's model 27! both identifies and establishes a means of determining the relative importance of criteria. They assert that the criteria used by freight buyers can be categorized into four dimensions-namely, risk reduction, price, ease of use and company image:

(1) Risk reduction. The tendency of industrial buyers to reduce perceived risk 1! implies that buyers employ the services of carriers who ensure the maintenance of their own reputation. Within this dimension such "technical" 25! criteria as speed of transit, frequency of departures, security of consignments and the consistency of a carrier's performance may be evaluated by freight forwarders.

(2) Price. Industrial buyers will always incorporate price influences into the buying process. However, other financial considerations such as credit



facilities and nett billing may also be reviewed by freight forwarders.

(3) Ease of use. While industrial buyers are thought to engage in "extended problem solving", freight buyers, in reality, limit the effort they expend<sup>11</sup>. Thus, ease of use **criteria** such as offering consolidation services, having knowledge of a forwarder's operations and the degree of possible integration with a forwarder's schedules may be significant in the forwarder's **selection** of a carrier.

(4) Company image. Product offerings include not only tangible aspects but also intangible facets. Consequently, the quality of promotional material and courtesy of staff may also be analysed by freight forwarders when evaluating potential carriers.

Buyers are human and, as such, are motivated by psychological factors. Maslow sought to explain an individual's motivation using a hierarchical model, where individuals first satisfy their basic needs before focusing on higher needs. The core concept of this model is noted by Davies and Gunton as they explain, "in this type of model, referring to one factor as being more important is less precise than the understanding that all factors will eventually be considered if other factors have been found acceptable"<sup>27</sup>. Employing this notion, they claim that buyers will only turn to "objective appraisal methods" when all four criteria dimensions have been satisfied in full, by at least two suppliers.

Maslow<sup>30</sup> notes the limitations of his model, recognizing that most individuals will not be motivated to satisfy all needs but will tolerate only partial satisfaction. Davies and Gray<sup>11</sup> echo this by noting the reality of satisfactory, as opposed to optimum, decisions.

Buyers will have differing orders of needs. However, as Maslow explains, "Despite variations between individuals in their needs . . . there is a tendency for common needs to evolve"<sup>31</sup>, p. 52<sup>1</sup>. The validity of Davies and Gunton's application of Maslow's model is seen in the consideration that, while price will always be a criterion in any organizational buying decision, it is not viewed in isolation but, rather, is considered in conjunction with other factors such as risk reduction. Therefore, price is one layer in the hierarchy of a buyer's needs. This is represented diagrammatically in Figure 2. (Figure 2 omitted) This notion of a hierarchical buying process is explained by Davies and Gunton as follows: "The buyer proceeds up the hierarchy of needs until all available alternatives are exhausted, in other words the decision is made"<sup>1</sup>, p. 8<sup>1</sup>.

As stated earlier, the aims of this article are two-fold: first, to investigate the buying behaviour of air freight forwarders; and, second, to investigate the validity of Davies and Gunton's hierarchical model of needs within this buying situation. This section has discussed the buyclass approach to understanding buyer behaviour and has also introduced the hierarchical model. Neither of these approaches is new, but it is rare for them to be tested. The research attempts to do this in the air freight forwarding market.

#### RESEARCH METHODOLOGY

To achieve the above aims, a primary research study was undertaken, utilizing personal interviews and questionnaires to discover the opinions, behaviour and needs of freight forwarders when purchasing the services of an air carrier. As noted earlier, there is a degree of ambiguity over the term "freight forwarder" and in the identification of relevant companies. A frame of reference was, therefore, sought and obtained from the British Institute of Forwarding Agents (BIFA). This comprised details of 155 trading members in Scotland, of which 138 engaged in forwarding air freight. According to BIFA this represents a complete list of air freight forwarders in Scotland. Clearly, a survey of all freight forwarders in the UK would have been desirable, but was simply too large an exercise. It was decided to concentrate on the Scottish market for size reasons, but also because it represents a discrete market and is one that is undergoing an interesting period of change, with developments at Glasgow and Prestwick

Airports. This list, therefore, comprised the survey population.

Utilizing the literature examined earlier, a questionnaire was designed to obtain details about buying behaviour and the needs of these freight forwarders. A series of interviews with two freight forwarders and a trade body representative was undertaken to broadly discuss the issues, and to ensure that the secondary research had covered the appropriate topics. These interviews also enabled the questionnaire to be developed and refined. To test the effectiveness of the questionnaire, a pilot study was conducted with a total of six freight forwarders in the Glasgow area. The questionnaires, in these instances, were completed in the presence of one of the authors to allow discussion about contentious points or wording and to ascertain any difficulty in completion. Several amendments were felt necessary following an analysis of the responses and suggestions made by the pilot test respondents.

The revised questionnaire (copies of which can be obtained from the authors) was mailed, in January 1992, to the 138 freight forwarders from the BIFA list. From these, a total of 87 questionnaires were returned, providing a response rate of 63 per cent. Of these, however, two were blank as the businesses were in receivership, nine claimed that they no longer acted as freight forwarders, and a further ten were incomplete by the return date. Thus, a total of 66 questionnaires were included in the analysis, i.e. an effective response rate of 48 per cent, which is a high response rate for a postal survey. Given the nature of the survey population, no disaggregation by activity/size etc. of the companies was attempted, but it is believed that the response rate is sufficient that the views obtained are representative of air freight forwarders in Scotland. It is recognized and accepted that it is a limitation of the approach taken that opinions rather than behaviour are really identified, but it is felt that this is an appropriate initial stage of research into this subject.

#### ANALYSIS OF RESULTS

The respondents indicated that they believed they offered a comprehensive service to their shippers and that this was on a global basis. The major destinations were Europe, North America and the Far East. The respondents were mixed in their views about preferring to deal direct with airlines (59 per cent) or working through agents (40 per cent), such as Servisair. The preference for dealing direct with airlines was founded on the service and rates provided. Cross-tabulation to investigate these differences suggested that it was particularly evident that freight forwarders preferred dealing direct on the North American route, because of the rates charged. This accords with recent changes in the Scottish market where airlines have cut rates in an attempt to raise market share. However, those preferring agents indicated that this was due to consolidation, service, credit facilities and the presence of a local office. What these broad parameters show is that both task and non-task reasons were identified and that, indeed, there seems to be a preference for certain key features (needs) to be addressed before other issues become important.

The main analysis of the responses is undertaken here under the broad headings of information, buyclass, motivation, **selection criteria** and model validity.

#### INFORMATION

Previous research (discussed earlier) indicated that five major sources of information (identified in Table I) are used by buyers of freight transportation services to create a list of alternative carriers. (Table I omitted) These were entered on the questionnaire for the respondents. A limited number of respondents (4.6 per cent) claimed that information is obtained from sources other than those listed. These respondents specified information sources or directories such as The ABC Freight Guide.

Table I shows that "word of mouth" and "promotional material" are viewed as

the least common sources of information by the respondents. "Sales calls" were noted by only 11.4 per cent of respondents as, uncharacteristically within industrial marketing, suppliers, i.e. carriers, do not widely visit clients. It is, therefore, not surprising that respondents do not deem this information source to be of great importance. Market analysis (e.g. 11!) indicated the possibility of some freight forwarders being limited in their choice of carriers, due to shippers specifying preferred carriers. In fact, almost 20 per cent of respondents claimed that this is indeed a factor in developing choice sets.

By far the most important information source identified by respondents (48.5 per cent) was past experiences. Arguably, this implies that a modified re-buy buyclass is dominant, as minimal information search occurs--a characteristic feature of a modified re-buy buyclass. It could also be argued that, for some freight forwarders, their past experiences translate into a straight re-buy situation.

#### BUYCLASS

Freight forwarders can receive regular routine orders and, as seen in Table II, 25.8 per cent of respondents operate with a degree of source loyalty, allocating business to one carrier without any further information search. (Table II omitted) This is clearly a straight re-buy decision. However, even for routine orders, this is not the dominant method of selection. The majority of respondents, 69.7 and 66.7 per cent for new and routine orders respectively, engage in minimal problem solving, considering two or three carriers before making a selection. Therefore, the dominant buyclass is indeed seen to be one of modified re-buy. There is evidence of a slightly wider choice when the order is new rather than routine, with more respondents indicating that they select from among more than three carriers.

#### MOTIVATION

Respondents were asked to indicate the size of the buying centre, i.e. the decision-making unit. In 62 per cent of cases, the buying centre comprised only one individual, with a further 29 per cent stating that two individuals were involved. The restricted size of the decision-making group means that motivation is very important. Buyers are influenced by non-task variables, such as perceived risk. From the survey, 57.6 per cent of respondents indicated that they felt the risk in purchasing carriers' services was high. There is, therefore, a degree of nervousness around decision making. Anderson and Chambers 31! claim that organizational buyers are motivated by the potential of receiving intrinsic and extrinsic rewards. If carriers can ascertain which rewards are dominant in this buying decision, product offerings to the freight forwarders can be enhanced, maximizing the rewards desired by decision makers.

Table III illustrates the dominant motivations of respondents when purchasing air transportation services. (Table III omitted) The forwarders' principal reward is seen to be personal satisfaction, with 80.3 per cent of respondents receiving this reward, though a substantial number (19.7 per cent) of respondents claimed to receive no reward at all. A total of 6.1 per cent of respondents claimed to receive rewards other than those listed. These were identified as being "relief" and also "a sense of value from creating a potentially loyal customer". These results suggest that personal relationships are important in this marketplace.

#### SELECTION CRITERIA AND MODEL VALIDITY

To understand the selection criteria, and to test the model validity, respondents were asked to rate a series of factors on a scale of one (low) to ten (high) with respect to each factor's contribution to selecting a carrier. Table IV lists the factors under dimension headings. While respondents would have received the factors in the same order as in the table, the dimensions were not provided as headings. These

dimensions are those of the hierarchical stages in the model being tested.

From the mean scores from all respondents for each factor it is possible to rank the relative importance of the factors within their dimensions (see Table IV). (Table IV omitted) Having identified the mean score and ranking order of the factors, an average value, on a scale of one to ten, can be calculated for each dimension. As seen in Figure 3, the order of importance of each dimension corresponds broadly to the hierarchical model developed by Davies and Gunton 27!. (Figure 3 omitted)

Table IV provides a variety of pointers to the relative importance of **selection criteria** and dimensions in the decision-making process. From the mean scores in Table IV, it is clear that the key dimension is that of risk reduction, with the average scores for each factor being high. Indeed, it is only occasionally that other factors come close to the mean scores recorded under the risk reduction dimension. Of these, only the factor of "rates offered" would replace any of the risk reduction factors in a "top six" factor list. The position among the other three dimensions is more confusing and the scores are similar (with the exception of two factors in the company image dimension). (It should be recalled that these dimensions stem from previous research and were not identified by the respondents.) It is equally plausible, therefore, to consider the factors themselves and, in this case, the "ease of contact" factor would have come high up the listing. Indeed, it is a feature of the scores that service, in a broad sense, is seen to be very important. In the case of risk reduction, these are the tangible elements of service, but the other more intangible elements also score well. Within the industry, there is a generally held belief that price, rather than service, is the primary criterion governing carrier **selection**. This notion, though inaccurate in **terms** of this study's results, is seen to have a rational basis, in that satisfactory, as opposed to optimum, buying behaviour appears to be present. In turn, buyers are seen to compromise among **criteria**, satisfying their basic needs in full, i.e. risk reduction, and subsequently compromising total satisfaction of higher needs. Following the buying decision process through, as defined by Davies and Gunton 28!, buyers, on achieving full satisfaction of basic needs, seek to achieve full satisfaction of higher needs, i.e. price. If a supplier's offerings fail to achieve this basic satisfaction, business will indeed be refused on the basis of price. Thus, while carriers may be refused on price, this factor, as Figure 3 illustrates, is not the primary criterion governing freight forwarder's carrier **selection** decisions.

Companies can devise marketing strategies that maximize the total utility of product offerings for customers, to exploit this hierarchy of needs and the presence of a dominant modified re-buy buyclass. Such strategies should not promote higher order factors until it is established, in the buyer's perception, that all their basic needs can be satisfied. Despite the competitive nature of this industry, freight forwarders must realize that price promotion alone will prove ineffective.

What Table IV and Figure 3 demonstrate is that there is a clear requirement for carriers (and/or agents) to position themselves and their offering towards freight forwarders. (Figure 3 omitted) In the first instance, it is vital to be in a position to reduce risk for freight forwarders by offering and delivering the tangible dimensions of service. The basic requirement is to have confidence in the operations. This is then compounded by the need to offer attractive rates. Clearly, freight forwarders are not likely to build a long-term relationship with a cheap operation that does not deliver consistently. The price issue is then followed by the less tangible elements of service, i.e. the relationship components.

In essence, these rankings also explain the buyclass. Companies have experience of a number of carriers and, in making their choices, will draw on their experience of their performance and also check the price. A service strategy of consistent accuracy and timeliness would seem to be appropriate.

The survey documented here had the relatively limited objectives of investigating buying decisions and one particular model. The limitations are recognized and accepted. The work does show, however, that in this market there is concern over relationships and it can be speculated that this relationship approach is becoming more important. The findings here, therefore, support the notion that buyer/seller relationships are important and that more importance is attached to service than to price in these relationships. The buyer/seller literature has not been examined in full here, but the current study has some links to the work of the IMP Group 33!, which could be usefully extended in future studies.

## CONCLUSION

Studies of the buying decision making of organizations such as air freight forwarders are comparatively rare, despite the importance such intermediaries have in the marketplace. The study of air freight forwarding in the Scottish market reported here suggested that both task and non-task factors are important, and that the dominant buyclass is one of modified re-buy. In particular, it found that price is not the key determinant, although it remains an important one. This finding replicates similar recent findings in North America and, clearly, is of importance in understanding how to undertake business through such freight forwarders. In particular, it concluded that it is the total product offering which is crucial for long-term relationship building rather than any short-term promotional activity focusing on price. This is clearly associated with developments in relationship marketing and extensions to buyer/seller relationships.

By emphasizing the total range of the product offering, companies are better able to form more stable relationships. It is interesting to speculate about whether the introduction of new technology, particularly Electronic Data Interchange (EDI), will alter these relationships. By providing electronic links and increasing the opportunities for comparing operators, it will change the competitive situation and alter the buying behaviour of forwarders.

## REFERENCES

1. Davies, G.J. and Gray, R., Purchasing International Freight Services, Gower, Aldershot, 1985.
2. Hastings, P., "A Tough Year for Traditional Operators", Financial Times, 4 December 1991.
3. Jeffrey, P.H., "JIT. Where Does it Begin and End?" Focus Institute of Logistics and Distribution Management, Vol. 6, December 1989, pp. 10-12.
4. McKinnon, A.C., Physical Distribution Systems, Routledge, London, 1989.
5. Worldshiper, "Flying for Survival": March/April 1990, pp. 17-20.
6. Institute of Logistics and Distribution Management, Report on the Market and Express Good Services between the UK and Europe, North America and the Far East, Institute of Logistics and Distribution Management, Corey, Northants.
7. "Tough Times for Traditional Carriers", Airtrade, October 1991, pp. 31-3.
8. McKenna, J.T., "Airlines Boost International Cargo Services to Protect Market Shares", Aviation Week and Space Technology, November 1989.
9. Smith, P., Airfreight, Faber and Faber, London, 1974.
10. Gates, A.C., "A Brief Introduction to Freight Forwarders", Institute of Freight Forwarders (IFF), London, undated.

11. "Key Note Report': Freight Forwarders, ICC Group publication, 1987.
12. Ross, D., "Air Freight", in Gattorna, J. (Ed.), Handbook of Physical Distribution Management, 3rd ed., Gower, Aldershot, 1983, Ch. 13.
13. Hutt, M.D. and Speh, W., Business Marketing Management, 3rd ed., The Dryden Press, New York, NY, 1989.
14. Webster, F.E. and Wind, Y., Organisational Buying Behaviour, Prentice-Hall, Englewood Cliffs, NJ, 1972.
15. Moriaty, W.R., Industrial Buying Behaviour, Lexington Books, MA, 1983.
16. Robinson, P.J., Faris, C.W and Wind, Y., Industrial Buying and Creative Marketing, Allyn and Bacon, Boston, MA, 67.
17. Mentzer, J.T., Gnomes, R. and Krapfel, R.E., "Physical Distribution Service: A Fundamental Marketing Concept", Journal of the Academy of Marketing Science, Vol. 17 No. 1, Winter 1989, pp. 53-62.
18. Shaw, A.W., Some Problems in Market Distribution, Harvard University Press, Cambridge, MA., 1915 (reprinted 1951).
19. Cook, W.R., "Transport Decisions of Certain Firms in the Black Country", Journal of Transport Economics and Policy Vol. 1 No. 3, 1967, pp. 325-44.
20. Brooks, M., "Limitations in the Carrier Choice Process", International Journal of Physical Distribution and Materials Management, Vol. 15 No. 3, 1985, pp. 38-45.
21. Cunningham, M.T. and Kettlewood, K., "Source Loyalty in the Freight Transport Market", European Journal of Marketing, Vol. 10 No. 1, 1976, pp. 66-79.
22. Saleh, EA. and La Londe, B.J., "Industrial Buying Behaviour and the Motor Carrier Selection Decision", Journal of Purchasing. February 1972, pp. 18-33.
23. Day, A., "Who Cares about International Freight?", International Journal of Physical Distribution and Materials Management, Vol. 21 No. 4, 1991, pp. 29-31.
24. Stock, J.R., 'How Shippers Judge Carriers", Distribution World Wide, August 1976, pp. 32-5.
25. Anderson, R.D., Jerman, R.E. and Constatin, J.A., "Buyer and Seller Perceptions of Transportation Purchasing Variables", Industrial Marketing Management, Vol. 7 No. 1, 1978, pp. 60-4.
26. McGinnis, M.A., "Shipper Attitudes Toward Freight Transportation Choice", International Journal of Physical Distribution and Materials Management, Vol. 10 No. 1, 1979, pp. 25-34.
27. Davies, G.J. and Gunton, C.E., "The Buying of Freight Services: The Implications for Marketers", Quarterly Review of Marketing, Vol. 8, 1983, pp. 1-10.
28. Global Trade, "Pilot Air Freight Defines Quality Transport Services", Vol. 108 No. 7, July 1988, p. 20.
29. Murphy, P.R., Daley, J.M. and Dalenberg, D.R., "Selecting Links and Nodes in International Transportation: An Intermediary's Perspective", Transportation Journal, Vol. 31, 1991, pp. 33-40.
30. Maslow, A.H., Motivation and Personality, Harper & Row, New York, NY,

1970.

31 Anderson, P. F. and Chambers, T.M., "A Reward/Masurement Model of Organisational Buying Behaviour", Journal of Marketing, Vol. 49, 1985, pp. 7-23.

32. Hakansson, H. (Ed.), International Marketing and Purchasing of Industrial Goods, Wiley, Chichester, 1982.

Mark Lillie is a graduate of the Department of Marketing and Leigh Sparks is a Professor of Retail Studies at

THIS IS THE FULL-TEXT. Copyright MCB University Press Ltd 1993  
GEOGRAPHIC NAMES: Scotland

DESCRIPTORS: Freight forwarding; Models; Air freight service; Decision making; Purchasing; Behavior; Studies

CLASSIFICATION CODES: 8350 (CN=Transportation industry); 9175 (CN=Western Europe); 2500 (CN=Organizational behavior); 9130

4/9/16 (Item 1 from file: 636)  
DIALOG(R) File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

01336307 Supplier Number: 41583525 (THIS IS THE FULLTEXT)  
Beyond the Metaphor: AMIX Builds an Electronic Marketplace  
Electronic Services Update, pN/A  
Oct, 1990  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 2373  
TEXT:

The electronic information industry is surpassingly fond of architectural and geographic metaphors. We speak hopefully of an "electronic global village," and do our Christmas shopping at the Electronic Mall. Several years ago, when the Bell operating companies (BOCs) were beginning to formulate their gateway plans, any pundit worth his or her salt allowed as how the telephone companies could certainly build electronic shopping centers, but could they get their customers in the proverbial door?

Yet, for all our attachment to the metaphorical power of location and structure, we in the information industry too rarely go beyond the descriptive and address the knotty issues of infrastructure. LINK uses the term "we" deliberately: vendors, users, carriers, consultants - not to mention the legal and regulatory communities - struggle with the lack of a fully developed infrastructure for electronic information and electronic services.

#### Making Markets

Take electronic marketmaking as an example. This is a piece of the electronic information industry that LINK has followed for several years. Electronic marketmaking services create an exchange for products and services where marketmaking has otherwise been unautomated, informal or underexploited, precisely for the lack of an appropriate mechanism. LINK's definition excludes electronic markets which essentially extend the established markets for financial instruments (examples include Reuters' Globex and Telerate's The Trading Service). Indeed, one reason LINK excludes the markets for financial instruments is that those systems can and do rely on an underlying infrastructure - that of the physical financial exchanges the world over. Marketmaking services in vertical markets as diverse as real estate, international trade, automobile and other equipment parts, computer and telecommunications equipment, and collectibles generated revenues of \$57.6 million in 1989, and will grow to \$192.5 million by 1994, at a compound annual rate of over 27%. (N.B. LINK's figures refer to marketmaking service revenues, not to the value of the products and services exchanged through those markets.)

What of the infrastructure for electronic exchange in these less-established marketplaces? How do buyers and sellers locate and qualify one another? What are the rules and regulations for issuing a request for **proposal** (RFP), setting prices, determining resale parameters? What safeguards does the market offer - in **terms** of reliability, confidentiality, and other issues - on both the **buyer** and **seller** sides? What mechanisms exist for arbitration and conflict resolution? How is the market incentivized, and what are the **conditions** and **terms** for market entry?

#### Enter AMIX

That these and other questions have been addressed - and in large measure answered - contributes to the impressiveness of AMIX (American Information Exchange), a Palo Alto-based development stage company, whose marketmaking service is, in President Phil Salin's words, in "late alpha." AMIX, which is 80% owned by AutoDesk (more on the ownership and outside investment question later), expects to field a pilot of its service by



spring 1991.

What market does AMIX seek to serve? ESU would dub it the "market for affordable expertise," that expertise taking forms as diverse as a research report or other document, to a bit of proprietary number crunching, to what Salin calls a "mini-consulting project." AMIX will initially target buyers and sellers of expertise in and around the computer industry, but the system's concept (as well as its true potential) is decidedly horizontal. Indeed, even in its initial incarnation, AMIX will seek to provide, not only marketing/financial and product/technology information and services for computer industry professionals, but expertise directed at the small business and home office markets (markets with particular resonance for LINK Resources).

For Example

Behind AMIX is what might be termed interactive topic management: a dynamic marriage of electronic messaging and the ability to organize and manipulate text as a series of topics or concepts. ESU has introduced readers to topic management (variously referred to as text database management, concept retrieval, and a range of other terms) through recent articles on Folio Corporation (January 1990) and Verity, Inc. (June 1990).

AMIX's topics are markets and their related submarkets, each dealing with a particular area of expertise. For ESU's initial tour of the system, Salin used two examples: LAN installation/management and computer trade shows. The prospective buyers, in turn, were looking for guidance in making a particular local area network (LAN) configuration work, and developing a strategy for participating in upcoming trade shows.

Within each market, the items which can be created and listed include:

- A listing of existing products for sale. These can include research reports, or pieces of reports. In the case of the LAN installation problem, the document was a how-to treatise. Prices currently range from under \$100 to approximately \$1,000, and are set by sellers, not by AMIX.

- A listing of experts in the given market. These experts are the authors of documents listed in the market, or consultants available for service as negotiated within AMIX. Experts' listings are enhanced by a profile, references, lists of published works, and other items which may help to qualify them. In addition, buyers may contribute their own comments, based on their experience with a product or service: "answered my questions perfectly," "way too techie," etc. Experts may respond to these comments, but cannot delete them from the system.

- Buyer-generated questions, RFPs, or other solicitations. AMIX provides a standard "form" which enables the buyer to pose the need, indicate the time frame, and propose terms (payment schedule, resale or reuse parameters, etc.). (Solicitations may be sent to every expert in the market, or limited according to buyer preference. Buyers and sellers may then negotiate and set terms through an exchange of messages: "Based on your budget and RFP, I would propose the following strategy for trade-show participation. I'll charge \$200 for one-half day of consulting." "I like your ideas, but I only want to spend \$100," etc.

This correspondence, and any other relevant documentation, is stored in what AMIX currently terms a "Correspondence Folder." This record not only facilitates the transaction, but provides an essential "paper" trail in the event conflicts arise.

(Buyers and sellers navigate through AMIX using keyword searching or scanning topics that may be of interest. Market topics are immediately downloaded to the user's disk so that actual online time is minimized. Any participant can set up hypertext links to establish additional cross-referencing and add to the richness of the system.

To browse AMIX, buyers pay only a connect-time charge to cover packet-switching costs. With AMIX's downloading feature, connect time is reduced to a minimum. Says Salin, "We are determined that connect costs not be a deterrent to buyers." User software (the same package will serve both buyers and sellers, enabling them to play either role on the system) will also be made available at minimal cost.

AMIX itself will make money from commissions on transactions completed through the network. AMIX will also manage accounting and billing.

Autodesk and Beyond

A word on the present disposition of AMIX the company, which has clear

predilection  
me  
condition  
by Amix  
a buyer

generally  
request  
- Broad casters  
to Sellers.  
Discreet exchange

implications for the market directions the AMIX system may eventually pursue. Since 1988, Autodesk, the PC-based CAD software pioneer, has owned 80% of AMIX through a \$3 million investment. However, an information enterprise like AMIX calls for expertise and backing from investors with strength in the information business.

Hence, Autodesk is now expecting to dilute its interest in AMIX, and AMIX is seeking additional partners. The company is working with a figure of \$6 million needed to launch the system and achieve profitability. However, AMIX's costs can be lower depending on how deeply any future partner has penetrated the online universe, and the online usage patterns of its customers in that universe. Salin noted legal and financial information as two obvious sources for markets and/or partners.

#### Salin Asks Us

Salin ended his demonstration of AMIX with a question for us: "How does this compare with what you expected to see?" The answer to his question helped frame our response to AMIX as a whole. It is not the "look and feel" of AMIX which is revelatory. Anyone with even a passing acquaintance with today's PC and Mac software (AMIX will be available to both communities) has come to expect an elegant user interface. Even the wonders of lightning-fast topic management and retrieval, and hypertext linking are fast becoming the rule, rather than the exception.

We come back to the idea of infrastructure. It is not the bells and whistles, but the way AMIX has applied those bells and whistles to the building of a market structure which is so intriguing. The system erects minimal barriers to entry and ongoing usage. It offers buyers tangible advantages in terms of:

- Access to qualified experts.
- Affordability. AMIX pricing of expertise on a discrete, transactional basis sets it apart from retainer-based services such as Minnesota-based Teltech. ESU believes this pricing structure will be key to attracting users in that great, horizontal swath of small business and home office workers, of which more below.
- Flexibility. AMIX does not predetermine, but in fact encourages, buyers and sellers to be creative in the structuring of information and consulting services.

It offers sellers tangible advantages in terms of:

- Exposure. Phil Salin described AMIX as ideally suited to "young Turks," emerging experts who have the qualifications, but need to build reputations.
- Effective screening. Qualifying buyers is as important as qualifying sellers. Because AMIX negotiations are conducted as a series of electronic messages, experts have increased freedom over telephone communications to respond, seek additional information or decline queries.
- Resale/repackaging opportunities. AMIX offers virtually unlimited opportunities to leverage expertise. An author can carve up a document to be sold on an incremental basis. A consulting project prepared for an AMIX customer may become a document offered for future sale. These capabilities make AMIX attractive, not only for young Turks, but as a new marketing channel for established author/publisher/information vendors.

For both buyers and sellers, AMIX provides system utilities and guidelines to facilitate the negotiation and structuring of deals within the system. AMIX is decidedly not an enhanced yellow pages or product information directory. It is a true marketmaking system for which, as Salin succinctly puts it, "the competitive context" it provides its key.

#### Market Managers

Yet, as far as AMIX goes in exploiting the potential of an online system, it recognizes the limits as well as the potential of automation. Each AMIX market is overseen by a market manager, a person with expertise relevant to that market. Market managers organize the market from a topic point of view, seek out experts for their markets, and help to resolve buyer/seller conflicts if they arise. Salin anticipates that a market manager could oversee a single market on a part-time basis, or multiple markets on a full-time basis.

#### Who, What, When, Where

The great unknown for this marketmaking network is, of course, its own marketplace. AMIX proposes to achieve success by collecting a percentage of

for  
buyers

small-scale transactions. Salin freely admits that he doesn't envision AMIX serving the market for large-scale consulting projects. He further allows that the relationships which AMIX helps to initiate may eventually move off of the system. "When a consultant and a customer establish an ongoing relationship, and thousands of dollars are changing hands, they probably don't need AMIX and that's fine."

We're talking about a lot of small-scale transactions, and an ongoing influx of buyers and sellers into the system. This is an overwhelmingly horizontal concept, but as every veteran of the electronic services wars knows, there's more than one way to slice the horizontal.

AMIX is not pursuing the mass-market -- help the kids with their term paper, ask Dr. Feelgood -- buyers and sellers. Rather, the company is betting that there is enormous, untapped potential in what Salin terms "the expert-to-expert or expert-to-information-intensive market."

Based on LINK's ongoing research into the small business and work-at-home markets, we believe that Salin's assumption has merit --although perhaps more for the latter market than for the former. Consider the following points:

- Thirty percent of small businesses (those with fewer than 100 employees ) have computers equipped with modems, and nearly that same level are aware of online services. Both of these points seem to us to be minimal prerequisites for using a service such as AMIX. At the same time, only 13% of modem users consider online services to be very important to their business, with an additional 20% deeming them somewhat important. (These figures are drawn from LINK's 1990 Small Business Survey.)

- The work-at-home market paints a more dynamic picture. The first fact to bear in mind is that the leading work-at-home buyers of home office equipment (likely candidates for the kind of how-to expertise AMIX can offer) are information or knowledge workers, neatly fitting Salin's category of "information intensives."

- LINK's 1990 National Work-at-Home Survey reveals a 21% increase in work-at-home households, to 26.7 million. Of these households, 43.5% (11.6 million) own personal computers, and 34.5% of PC households (4.0 million) own modems. Work-at-home PC penetration is now higher than PC penetration in small businesses with less than five employees based outside the home. Modem users are also the highest spenders for office equipment, with the exception of those who own their own copying machine. According to 1989 figures, modem owners had over \$4,000 invested in home office equipment, compared with \$1,600 for all homeworkers. The greater investment also suggests to ESU that such people would be motivated to purchase outside expertise.

The numbers get even more interesting. LINK's survey reveals that the greatest growth in work-at-home households comes from people using computers to do occasional job-related work at home, including moonlighting. LINK estimates that nearly 9 million company employees do some work at home as a part-time secondary job, such as freelancing or operating a small home business. Such people would appear to be ideal candidates for AMIX participation, not only as buyers, but as sellers -- part-time consultants leveraging expertise developed at the workplace into a lucrative second career. AS LINK's work-at-home guru Tom Miller puts it, "As employees become skilled in the use of information products, they also become more entrepreneurial."

AMIX's possibilities are tremendous. As the company moves into beta testing and an eventual commercial rollout, we look forward to seeing how many of these possibilities will become reality.

Author: Judith Feder

COPYRIGHT 1990 LINK Resources Corp.

THIS IS THE FULL TEXT: COPYRIGHT 1990 LINK Resources Corporation

Subscription: \$495 per year as of 1/92. Published monthly. Contact

LINK Resources Corp., 79 Fifth Avenue, New York, NY 10003. Phone (212) 627-1500. FAX (212) 620-3099.

COPYRIGHT 1999 Gale Group

PUBLISHER NAME: LINK Resources Corporation

INDUSTRY NAMES: BUSN (Any type of business); CMPT (Computers and Office

00800089 94-49481

What are purchasers looking for in managed care quality?

Lipson, Edward H

Topics in Health Care Financing v20n2 PP: 1-9 Winter 1993 CODEN: THCFDG

ISSN: 0095-3814 JRNL CODE: THC

DOC TYPE: Journal article LANGUAGE: English LENGTH: 9 Pages

SPECIAL FEATURE: Charts Equations References

WORD COUNT: 3635

**ABSTRACT:** Spurred by competition and the growth of managed care, providers are seeking new approaches for satisfying the needs of health care purchasers. Increasingly, these purchasers are focusing on the value of managed care arrangements, especially the degree to which they manage quality. Underlying the emerging focus on quality are concerns about "undercare," potential legal liability, and the economics of quality. Purchasers are sensitive to the quality of service and the experience of their patients, as well as the clinical quality of the care they receive, and many employers are now engaged in a systematic effort to assess both of these dimensions of quality. The emergence of national data banks, practice standards, and accreditation programs offers additional tools for strengthening provider accountability for quality. Many purchasers are aggressively pursuing continuous quality improvement in their core businesses and note the application of these industrial models to health care settings. To date, most total quality management activities are occurring in hospitals.

**TEXT:** Spurred by competition and the growth of managed care, providers are seeking new approaches for satisfying the needs of health care purchasers. Increasingly, these purchasers are focusing on the value of managed care arrangements, especially the degree to which they manage quality. Underlying the emerging focus on quality are concerns about "undercare," potential legal liability, and the economics of quality. Purchasers are sensitive to the quality of service and the experience of their patients, as well as the clinical quality of the care they receive, and many employers are now engaged in a systematic effort to assess both of these dimensions of quality. The emergence of national data banks, practice standards, and accreditation programs offers additional tools for strengthening provider accountability for quality. Key words: managed care; credentialing; quality monitoring.

In today's competitive environment, providers increasingly seek to maintain or improve market share by understanding and meeting the needs of employers and other purchasers. While some purchasers contract directly with providers, most prefer to negotiate with a third party to obtain the key features of managed care. To complicate matters, the employer may rely on an employee benefits consultant or broker to help select a managed care vendor. Thus, providers that wish to compete successfully must understand the motivations and methods of a diverse set of players.

This chapter focuses on purchaser concerns about managed care quality and approaches to selecting managed care programs. Providers may then use these insights to judge the likely success of managed care organizations in attracting subscribers and guide development and marketing of quality management initiatives.

#### VALUE IN MANAGED CARE

There is no question that the skyrocketing cost of health care benefits has driven many purchasers to offer a wide spectrum of managed care programs.

Increasingly, however, purchasers are taking a broader view and focusing on value, not just cost.

The concept of value represents the relationship of quality to cost as shown in the following equation:  
(equation omitted)

(where V = value, Q = quality, and C = cost).

Many observers assert that the focus on value will be the driving force for change in the U.S. health care system in the 1990s. A corollary is that purchasers will increasingly focus on the value of managed care arrangements, especially the degree to which they manage quality. (1)

#### PURCHASER'S INTEREST IN QUALITY

Three key issues underlie purchasers' interest in managing quality:

1. "Undercare." In its drive to eliminate waste and "overcare" in the traditional fee-for-service health care system, managed care might lead to "undercare," where appropriate or needed care will not be provided.

2. Legal liability. By providing incentives for employees to use selected providers, purchasers might be vulnerable to claims of responsibility for medical negligence. In addition, utilization review techniques might create purchaser liability for injuries alleged to result from premature hospital discharge.

3. Economics of quality. Improving quality makes sense from an economic point of view. Based on experience in their own industries, purchasers believe that "doing it right the first time costs less." While there are no large-scale studies of the health care industry to support this contention, most health care quality experts can cite ample supporting evidence. For example, hospital-acquired infections represent suboptimal quality and also contribute to increased resource use in the form of longer lengths of stay, more drugs, and more laboratory tests.

In addition to these general perspectives, purchasers are concerned with the specific methods used by vendors to manage quality. After all, some managed care programs are quite new and have a spotty track record. Careful selection is essential with employee relations at stake, and it's difficult to switch managed care options once they are offered. Moreover, many employers are reaffirming their commitment to quality in their own core businesses and require similar commitments from their vendors--including suppliers of health care services.

#### DEFINING QUALITY

A frequent complaint from purchasers is that everyone seems to want quality in health care, but no one can define it. Part of the problem is that the attributes of quality depend on the point of view of the observer, as shown in Table 1-1. (Table 1-1 omitted)

In spite of these differing perspectives, it is possible to define certain common characteristics of quality of care, as shown in Table 1-2. (Table 1-2 omitted)

Historically, providers have not been organized or had the tools to systematically demonstrate these quality characteristics. Purchasers hope that managed care networks will be able to access data from large populations to draw conclusions about the efficacy and effectiveness of medical treatments and communicate this quality information to network providers. Because there is an enrolled population, statistics can be developed that require a known denominator for determining incidence rates (e.g., perinatal complications per 1,000 members).

On a more narrow scale, managed care networks are now requiring their

physicians to cooperate with certain quality standards.

For example, the vendor can require that the physicians notify it if a problem at the hospital results in a limitation of privileges. The vendor can also require cooperation in gathering quality monitoring data.

#### IDENTIFYING QUALITY IN MANAGED CARE

Given differing perspectives on quality and obstacles to program implementation, what are purchasers looking for to assess quality in a managed care network?

#### The quality of caring

How employees experience the health care services that they receive is a major indicator of quality. Four key elements that define this experience include:

1. Access and convenience How close are network providers to the employee's residence and place of work? What is the fit between historical claims and the network's roster of providers? Will a large percentage of employees need to switch primary care physicians to use "in network" services? Are the physicians listed in the provider directory available to receive new patients or are their practices closed? Is there a high turnover rate of network providers?

2. Scope of service What services are provided by the network, in addition to traditional illness care? Are wellness/health promotion/disease prevention services an integral part of the network services and are physicians supported and trained in this aspect of care? Are there specialized centers of excellence for transplants and other complicated procedures? Are there adequate numbers of specialty physicians in most of the recognized medical specialties?

3. Customer orientation Does the network place a premium on serving members promptly and courteously? How is this orientation transmitted to network staff and providers?

4. User-friendliness Most managed care networks have several administrative systems that must work together to provide a high level of service. Does the network have systems that minimize member confusion? For example, can the member call one telephone number and access all areas of the network's administrative services?

It is important for any managed care organization to assess its success in "quality of caring" by systematically monitoring the satisfaction of its members. Managed care plans often use a periodic written survey of a random sample of members or focus groups for this purpose. The purchaser may ask for the results from several recent surveys and ask how the network has used these results to correct any reported deficiencies.

When things go wrong, it is essential for the network to have an effective mechanism for resolving disputes. An informal complaint tracking mechanism should be an integral part of the member services function, so that inquiries can be tracked and resolved before they become formal grievances.

The formal grievance mechanism should provide a well-described pathway for both members and providers to resolve their concerns. The vendor should have a method for logging and tracking, and a committee structure should be in place to judge the validity of these complaints.

#### The clinical quality of care

Purchasers are increasingly asking detailed questions about the processes used to select, credential, and reappoint network providers.

#### Provider selection

How does the network target quality providers for network membership? Often, it is not possible to determine provider practice patterns in advance; however, some vendors have established provider profiles based on historical claims data to aid in the selection process.  
Provider credentialing

After a physician or hospital has been targeted for network membership, what process is followed to verify their credentials?

#### Hospitals

Most managed care organizations rely on the accreditation process of the Joint Commission on Accreditation of Health Care Organizations (Joint Commission). In addition to verifying accreditation status, some networks are asking for a description of planned corrective actions for the most significant (i.e., type I) recommendations. In addition to verifying the network's formal hospital credentialing process, the purchasers may develop some impression of a hospital's quality through reports from employees and other informal mechanisms.

#### Physicians

Cautious purchasers closely scrutinize the physician credentialing process, beginning with a review of the application document. Does the application request information on personal health, education and training, hospital privileges, and malpractice history? Does the application require the physician to answer a series of yes/no questions regarding limitations or suspension of privileges, suspension from government medical programs, suspension or restriction of drug license, malpractice insurance cancellation, felony conviction, drug or alcohol abuse, and chronic or debilitating illnesses? Does the network independently verify: unrestricted medical license, drug certificate, malpractice insurance in force at specified limits, hospital privileges, malpractice history, and board certification?

Some purchasers request that the network check the National Practitioner Data Bank as part of the credentialing process. There are limitations on the ability of managed care organizations to access this information, but they may be able to require that physicians provide a report from the data bank as part of the network credentialing process.

The Public Citizen Health Research Group (Washington, D.C.) has received wide publicity for its national database of physicians that have been publicly disciplined. In addition, the Medicare program releases information on physicians who have been barred from participation. Purchasers may ask whether these data sources are used in credentialing because of inquiries from their employees. Purchasers may also ask about notification requirements in the provider contracts. For example, is a physician required to promptly notify the managed care network if the physician's privileges were restricted at a hospital?

Some managed care networks include practice site reviews as part of the credentialing process. In order to qualify for network membership, must a physician meet certain facility standards (e.g., adequate parking, sick and well reception areas, handicapped access) as well as clinical standards (e.g., disposal of hazardous waste, security of controlled substances)?

After the initial credentialing process, is there a periodic reappraisal of physician credentials? In addition to obtaining an interim health and malpractice history from the physician, does the network use reports that profile individual provider practices to support the reappointment decision? Are member grievances, peer review decisions, and other clinical monitoring reports included in these profiles?

In summary, purchasers view the initial credentialing and ongoing

reappointment processes as critical activities for promoting quality in the provider network. They also expect careful screening of applicants as a hedge against possible future claims of negligence in selecting providers. This is particularly important in light of a 1988 study that found that 5 percent of physicians applying for clinical positions in a national ambulatory care program presented false clinical credentials. (2)

#### Case-based clinical quality monitoring

How does the network monitor quality of care? Are individual cases of potentially poor quality identified and evaluated by network personnel? Are these cases analyzed by a peer review committee and discussed with the physician and are disciplinary actions taken if necessary?

#### System-based clinical quality monitoring

Is there an effective system for monitoring and evaluating the managed care network's quality management (QM) program? Does the network have an effective system for examining care, uncovering problems and opportunities for improvement, and correcting them?

Sophisticated purchasers seek a monitoring program that can identify trends so that care can be constantly improved. For example, if a hospital's admission rate for uncontrolled hypertension exceeds a defined level, what steps are taken to determine the underlying causes and reduce the rate below the threshold? For a Cesarean section rate of 24 percent, approximately the national average, what steps are needed to reduce the rate to 18 percent?

Robust data systems are necessary for an effective quality monitoring program. Many managed care programs, however, have developed their claims systems in an indemnity environment and these systems are not always well suited to capturing diagnostic and outcome-of-care data. What enhancements have been made to the network's data systems to meet purchaser reporting requirements?

#### Risk management

The goal of risk management is to protect the vendor and potentially the purchaser--from losses and, in concert with the QM program, to identify and reduce the risk of patient injury associated with care. Traditionally, risk management activities have been strongest in hospitals, but the increasing volume of outpatient care requires an extension of these activities.

Does the managed care network have a well-conceived risk management plan that is integrated with the quality monitoring program and involves physicians in the loss and injury prevention process?  
Corrective action

While purchasers seek to avoid guaranteeing the quality of care provided to their employees, they expect that if network quality monitoring has identified problems, effective action plans will be developed. For findings involving an individual provider, does the network have a peer review committee structure that offers the provider an opportunity to respond and provide additional information? After thorough review, if the care provided is below network quality standards, can the provider appeal the decision?

For findings that are based on aggregate data from the quality monitoring program, can the network show that the reasons for the problem have been investigated, improvements implemented, and the effectiveness of the improvements monitored?

#### EVALUATING MANAGED CARE QUALITY

The challenge for the purchaser is to assess whether the various aspects of quality discussed are present in the managed care network and how



rigorously they are being executed. For many purchasers, this assessment includes a structured evaluation process.

#### Timing

A quality assessment can be performed at various points in the managed care development cycle, beginning with the initial vendor selection. For example, the purchaser's request for proposal can include a comprehensive quality section.

Another point for quality assessment is during implementation. After the vendor has been selected, the purchaser may initiate an in-depth evaluation of the quality programs, including an on-site audit.

Finally, the purchaser may wish to develop an ongoing monitoring program that will provide useful quality information prior to renewal.

#### Quality evaluation process

Purchasers usually chose to limit their direct involvement in the evaluation of a QM program because they lack the clinical perspective necessary to judge these programs. Furthermore, direct involvement might have the paradoxical effect of increasing liability exposure. Clinicians and other health care delivery system "insiders" may be enlisted to aid the evaluation process by collecting information and assisting purchasers to interpret the findings.

Typically, the process for evaluating managed care networks has two phases: document review and on-site evaluation.

##### Document review

In this phase, a careful review of the vendor's quality plan documents is conducted. Descriptions and supporting documents that are reviewed include the following:

##### provider selection criteria;

\* provider applications; \* description of the credentials verification process; \* description of the reappraisal of credentials process; \* review of provider contracts, with emphasis on the sections dealing with provider notification requirements, and obligations to participate in the quality monitoring program; \* the QM plan; and \* a description of the database that supports the QM program.

##### On-site evaluation of network operations

Eight steps are taken in this phase to assess the network's systems:

1. A sample of physician credentials files are reviewed for completeness and independent verification of key items.
2. Applicant disapproval and termination rates are assessed to determine the strictness of criteria in terms of the percent of providers denied participation.
3. Key personnel are interviewed to establish their qualifications and knowledge about their jobs.
4. Data collection efforts are observed. For example, if quality indicators are entered into medical management screens, the process and method for determining appropriate indicators is assessed.
5. Quality monitoring activities are reviewed and discussed with the medical director and network QM staff.
6. An extensive interview is held with the network medical director. The medical director is the key to an effective QM program and his or her

insights and skills in program implementation are critical to the success of the QM program. The highest yield from the medical director interview can be obtained if the interviewer is another physician.

7. The minutes from peer review proceedings, quality monitoring committees, and grievance committees are reviewed.

8. Vendor surveys of member satisfaction are discussed with appropriate network staff, and plans for corrective action are reviewed. Grievance tracking reports and informal complaint resolution procedures are evaluated.

#### EMERGING TECHNIQUES

In the future, purchasers will intensify their efforts to evaluate the quality of their managed care vendors. These vendors, in turn, will have more sophisticated tools for monitoring and managing quality. Some of these tools are currently available but not fully developed or implemented in the managed care context. Other tools are just being developed, particularly in the data area.

#### National practitioner data bank

The Health Care Quality Improvement Act of 1986 established a national clearing house for physician credentials. The data bank began operation on September 1, 1990, with Unisys as the vendor. The primary focus of the data bank is to collect information on physician malpractice and adverse credentialing decisions. Hospitals and malpractice carriers are required to report credentialing information to the data bank. Some managed care organizations are required to report to the data bank but only health maintenance organizations (HMOs) can request information.

Currently, the information contained in the data bank is limited. As reporting increases, the data bank may become a useful tool for managed care credentialing, especially in checking a physician's practices in another state. To expand its utility, guidelines for accessing the data bank will need to be relaxed to include managed care networks that are not licensed as HMOs.

#### Practice standards

Purchasers are now bombarded with mail, articles, and conferences on provider-generated practice standards, protocols, and guidelines. Purchasers generally support providers' desire to judge effectiveness by examining the clinical outcome of care and the development of practice standards as the benchmark for making these judgments.

Some physicians have labeled practice guidelines as "cookbook" medicine. They also fear that care that deviates from the protocols might increase their exposure to malpractice claims. While these are legitimate concerns, there is growing evidence that the use of practice standards actually reduces malpractice exposure because the physician can use adherence to the protocols as evidence that care was planned according to generally recognized professional standards.

Although debate continues within the medical profession, purchasers expect to see continuing refinement and implementation of practice standards and protocols as important tools for managing quality in managed care networks. (3)

#### External accreditation programs

It might simplify the selection process for purchasers if nationally recognized and validated accreditation standards were developed for managed care programs. The Joint Commission began a managed care accreditation program in 1988 but abandoned the effort in 1990.

The National Committee for Quality Assurance (NCQA) currently offers an

accreditation program. The NCQA was founded in 1979 as a joint effort of the Group Health Association of America and the American Association of Foundation for Medical Care. After reorganization in 1990, the NCQA expanded its program of voluntary accreditation for HMOs, with emphasis on QM systems. Several large, carrier-based managed care networks currently are participating in the NCQA accreditation program.

In reality, the diverse needs of different purchasers and the local and regional variations in medical practice make it unlikely that accredited status could serve as the sole basis for selection of a managed care plan. As accreditation programs evolve, they may provide a useful starting point for managed care evaluation. Accreditation might be a necessary but not sufficient basis for a purchaser to select a managed care program.

#### Improved data collection and trending tools

As managed care plans become more sophisticated at integrating claims and medical management systems, purchasers expect to receive better reports of aggregate quality performance. These reports should reflect the evolution from quality monitoring that focuses on identification of "bad apples" to the continuous improvement of systems for taking care of members.(4)

#### Total quality management

Many purchasers are aggressively pursuing continuous quality improvement in their core businesses and note the application of these industrial models to health care settings. To date, most total quality management (TQM) activities are occurring in hospitals. In the eyes of the purchaser, the leading edge managed care program will be the one that succeeds in implementing a comprehensive TQM system in a managed care context.(5)

#### REFERENCES

1. For an overview of value purchasing, see Couch J.B. "The Era of Medical Care Value Purchasing and the Role of Physician Executives." In Health Care Quality Management for the 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
2. Schaffer, W.A., Rollo, F.D., and Holt, C.A. "Falsification of Clinical Credentials by Physicians Applying for Ambulatory-Staff Privileges." New England Journal of Medicine 318, no. 6 ( 11 February 1988): 356-58.
3. For a review of issues relating to practice standards, see Eddy D. "The Role of Clinical Practice Policies in Quality Manapement." In Health Care Quality Management for the 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
4. For a review of issues relating to data management, see Caper P. "Population-Based Measures of the Quality of Medical Care," and Pine M. "The Use of Large Databases to Monitor and Manage the Quality of Health Care." In Health Care Quality Management for 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.
5. For a useful critique of TQM applications in managed care, see Jennison, K. "Total Quality Management--Fad or Paradigmatic Shift In Health Care Quality Management for the 21st Century, edited by J.B. Couch. American College of Physician Executives, 1991.

THIS IS THE FULL-TEXT. Copyright Aspen Publishers Inc 1993

4/9/2 (Item 2 from file: 15)  
DIALOG(R) File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

00733729 93-82950

The buying behaviour of air freight forwarders  
Lillie, Mark; Sparks, Leigh  
International Journal of Physical Distribution & Logistics Management  
v23n1 PP: 14-22 1993 CODEN: IPDJAX ISSN: 0960-0035 JRNL CODE: IPD  
DOC TYPE: Journal article LANGUAGE: English LENGTH: 9 Pages  
SPECIAL FEATURE: Charts References  
WORD COUNT: 5976

ABSTRACT: An examination is made of the buying behavior of air freight forwarders in Scotland. Personal interviews and questionnaires are utilized to discover the opinions, behavior, and needs of freight forwarders when purchasing the services of an air carrier. The results suggest that both task and non-task factors are important. In particular, it is found that price is not the key determinant, though it remains an important one. It is concluded that it is the total product offering that is crucial for long-term relationship building rather than any short-term promotional activity focusing on price. This is clearly related to developments in relationship marketing and extensions to buyer-seller relationships. By stressing the total range of the product offering, companies are better able to form more stable relationships.

TEXT: The air cargo industry is of global and increasing importance. Davies and Gray 1! estimate that over 8 million people are employed worldwide in forwarding services alone. The role for fast, efficient and effective freight services seems assured, expanded by technological advances. As international or global business and sourcing increases, the need for such services expands further. With such a scenario it is, therefore, of little wonder that there are a large number of service providers and that the choice or buying decision between them is of increasing importance.

The aim of this article is to present the results of an investigative study into the buying behaviour of air freight forwarders and to link this work with theoretical models of buying behaviour. To meet this aim, the article is structured into five main sections. First, the air freight market itself is discussed. Second, various models of decision-making and buying behaviour are introduced and examined and a model for empirical examination suggested. Third, the methodology of the primary research is outlined, with the results presented in section four. Finally, conclusions are drawn.

#### THE AIR CARGO MARKET AND FREIGHT FORWARDING

In understanding the buying behaviour of freight forwarders it is necessary to focus their role within the distribution chain. The concept of transporting goods by air is as old as aviation itself. Today's marketplace, together with rapid technological developments, instant communications, just-in-time production systems and intense competition to add value, provides a climate in which air freight prospers. However, as with other industries the air cargo sector has suffered over the past decade, due to world trade recession, additional security requirements and intense competition 2!.

The importance of air cargo in distribution terms, however, is assured. Over the past decade there has been widespread destocking arising from the withdrawal of tax relief on stock appreciation and sharp rises in interest rates. The continuing diffusion of just-in-time (JIT) and supply chain management systems further benefits the air cargo industry. As

manufacturers adopt a JIT philosophy, with the objective of eliminating all noncontributing resources, products previously held in stock in a variety of locations may now be demanded urgently for next day delivery from one central location. Thus, the speed and services of air cargo are increasingly being demanded 3!. As McKinnon notes, "the suppression of inventory levels is . . . promoting the growth of express freight services" 4, p. 261!. The higher costs of air freight are thus offset by the inventory reduction and savings in other functional areas, and the higher service level provided. At the same time, there is an increasing use of technology to improve performance throughout the industry.

There are two main approaches to air cargo services. The first involves carriers collecting packages, shipping them on their own aircraft and then delivering them. These are the integrated carriers. This differs from the traditional system in which freight forwarders collect packages, consolidate them, deliver them to a selected air carrier for flight and then collect the packages at the other end for delivery (see Figure 1). (Figure 1 omitted) While traditional air cargo has maintained a 7 per cent annual growth rate worldwide, the real growth area has occurred in the air express sector, at rates estimated between 25 and 40 per cent 5,6!. The success of integrated carriers such as TNT and Federal Express arose, in part, from a direct attack on the perceived weakest points of the traditional air cargo industry: namely, an inability to provide shippers with upto-date information concerning the status of their goods, and an inability to move goods as swiftly on the ground as in the air 7!.

Airlines are expanding and improving their cargo services in an attempt to defend their share of the market, from both integrated carriers and other traditional cargo carriers 8!. Many carriers previously regarded cargo services as merely a by-product of operating passenger services. They recognize, however, that revenue can be maximized through air cargo. As Smith suggested: "Air freight makes a significant net contribution to the profitability of airline services, even after deducting all the additional costs incurred to earn it" 9, p. 50!. The ability of airline carriers to defend their market share rests on the establishment of closer relationships with their "natural" partner, the freight forwarder. This partnership between carrier and freight forwarder is recognized and Davies and Gray suggest that "95 per cent of all air freight is handled by air freight forwarders" 1, p. 106!, although this figure is reduced today by competition. McKenna describes freight forwarders as the air carriers' "front line troops in the battle against integrated express carriers" 8, p. 125!. Within this "natural partnership" and "battleground", therefore, a critical issue for freight forwarders arises in their selection of airline services to use. This buying behaviour is the subject of the present study.

The term "freight forwarder" encompasses a wide variety of organizations which offer services to shippers. An appropriate definition is hard to find, with even the Institute of Freight Forwarders (IFF) finding this task challenging:

The freight forwarder's--formally termed the shipping or forwarding agent--initial role was one of "arranger" of international transport services, finding space for a shipper's export cargoes. In recent years this role has expanded encompassing the co-ordination of transport documentation, custom clearance and other such ancillary services 10!.

Despite the variation of services offered by individual freight forwarders, several core activities generally undertaken can be highlighted 11!:

- (1) The arrangement of the carriage of freight and payment of charges..
- (2) Consolidation of air freight.
- (3) Advice on routing regarding reliability, cost and security.
- (4) Undertaking related documentation.

- (5) Arranging customs clearance.

Ross 12, p. 232! describes the activities of the freight forwarder as:

assembling small shipments into single large consignments which are passed on to an airline in the name of the freight forwarder as shipper. This involves receiving individual packages from different shippers and consolidating them, for subsequent despatch, but not necessarily by the first available service. Consolidated assignments are then disassembled at destination, or at a convenient intermediate point en route, and individual consignments reforwarded to destination. Increasingly, technology is an integral part of this.

In combating the rise of the integrated carrier, therefore, freight forwarders need to work closely with airlines to provide the most appropriate service for their customers. This involves them in purchasing services and it is the decision making in this activity that is considered here.

#### MODELS OF DECISION-MAKING AND BUYING BEHAVIOUR

Hutt and Speh 13, p. 18! define organizational buying behaviour as "the decision making process by which formal organizations establish the need for purchased products and services and identify, evaluate and choose among alternative brands and suppliers". Several theoretical models exist which attempt to clarify and explain a buyer's behaviour within the procurement process. On a broad perspective, these models may be categorized as task, non-task and complex models 13-15!.

##### TASKS MODELS

A variety of task models exist, which focus primarily on the economic factors of any decision. Though considerations of constrained choice and reciprocity can be included, the emphasis on economic factors in task models invalidates their application alone to the buying decision of freight forwarders, as other factors are likely to exist. These models are incomplete as descriptions of buying behaviour in formal organizations, because rationality and simplicity cannot be assumed.

##### NON-TASK MODELS

"Non-task orientated models introduce human beings into the description of organizational buying behaviour" 14, p. 16!. The influence of human factors such as personal satisfaction and status, risk minimization and individual buyer/seller relationships can be anticipated as being important in the process of freight forwarders selecting an air carrier. Task variables alone and non-task issues are not enough, so too are non-task issues alone insufficient, as degrees of rationality might be expected in freight forwarders' purchase decisions. Thus, as Webster and Wind assert "ideally our model of the organizational buying process would include individual, group and environmental variables and both task and nontask considerations" 14, p. 20!. Complex models provide a means of simultaneously combining task and non-task variables.

##### COMPLEX MODELS

Robinson et al. 16! introduced an empirically-based twodimensional model, namely the "Buygrid model". This model distinguishes three different forms of buyclass:

- (1) Buying situations, namely new task.
- (2) Modified re-buy.
- (3) Straight re-buy.

In new task buyclass a need is perceived to be totally different from

previous needs and, consequently, a substantial quantity of information is necessary to investigate alternative ways of satisfying the need and finding potential suppliers. Industrial marketers confronting a buyer within a new task-buying situation may obtain a significant advantage over other suppliers by participating in the initial stages of the procurement process.

In the modified re-buy buyclass, organizational buyers, despite having well-defined criteria designed to satisfy their need, believe it may be advantageous to re-evaluate alternatives. When encountering a **buyer** within a buyclass of modified re-buy, the direction of a **supplier's** marketing effort is dependent upon whether the **supplier** is an "in" or an "out" **supplier**. An "in" **supplier**, i.e. a **supplier** who has already established a working relationship with the **buyer**, must both understand and satisfy the **buyer's** procurement process and move them into a straight rebuy situation. An "out" **supplier**, i.e. a **supplier** who currently does not deal with the prospective **buyer**, may increase their appeal to the **buyer** through offering guarantees as part of the **proposal**, thus decreasing the perceived risk of buyers to employ a new **supplier**.

A straight re-buy buyclass is seen to occur when there is a recurring requirement of one buyer upon a supplier. The decision process engaged by buyers within this buyclass may be described as routinized response behaviour. Unlike the above buying situations, buyers within a straight re-buy have both well-developed **selection criteria** to apply to the purchase decision, and have a strong predisposition towards one supplier's offerings. Again, the direction of the marketing effort appropriate to this buyclass is dependent on whether the marketer is an "in" or an "out" supplier. "In" suppliers should attempt to strengthen their relationship with the buyer, satisfying their requirements and continually monitoring the buyer's present and future needs. "Out" suppliers face a substantial obstacle in that they must convince the buyer that benefits outweighing any perceived risk of employing a new supplier may be gained by re-evaluating alternatives and switching to a new supplier.

Theoretical models elucidate the importance of understanding the buyclass of prospects. We might expect the situation to vary among freight forwarders and over time, but it would seem likely that most freight forwarders would be in either the straight re-buy or modified re-buy class, and this is investigated later. It is now necessary to review models related to the purchase of freight transportation services.

The importance of physically distributing goods has long been acknowledged. Mentzer et al. 17! cite the early work of Shaw 18! who noted a shift in emphasis from a view where distribution was seen merely to satisfy needs, to one where distribution became regarded as a measure of a supplier's performance. Despite over 70 years of discussion, instilling the importance of physical supply in the academic forum 17!, only recently has the full significance of physical distribution been recognized within industrial circles 4!.

The same product may elicit very different buying behaviour in different organizations. To understand this phenomenon the determinants of buyer behaviour, such as a company's buyclass, must be investigated. Several studies have analysed the buyclass of buyers of freight transportation services. Cook 19! examined the buyclass of transportation buyers, specifically looking for straight re-buy situations, and concluded that positively confirmed expectations (situations where the firm's performance exceeds customer expectations), did cause an increase in repurchase. Brooks 20, p. 3! states that "a satisfied purchaser of freight services will merely choose the carrier chosen 'last time', i.e. a straight re-buy situation and will not engage in prolonged decision making". Similarly, Cunningham and Kettlewood 21! conducted a study exploring straight re-buy buyclasses in freight transportation purchase decisions within Scotland, and emphasized their significance. In contrast, Saleh and La Londe 22!

stated that 94 per cent of the companies they studied were in a modified re-buy buyclass.

The differences of opinion concerning the buyclass of buyers of eight transportation services is seen by Day 23! as a paradox. Day explains that though buyers may claim they seek a strategic partnership with a supplier, i.e. a straight re-buy situation, in reality their buyclass may be one of new task, as empirical research suggests that "shippers prefer to seek individual specialists and enter into short term contracts" 23, p. 30!.

Stock 24! partially addressed the subject of **selection criteria** in carrier decisions. Anderson, et al. 25!, in a more detailed study of the perceptions of shippers and carriers, identified "differences" between a carrier's assessment and the actual importance shippers assigned to specific **criteria**. The three major dimensions of **criteria** appraised by shippers in this study were identified as relating to the carrier's "technical ability", "service orientation" and general "image". This study, however, was not specific to air transport.

McGinnis 26! provides an extensive list of **criteria** used by shippers in their **selection** of a carrier. Moreover, this study attempts directly to identify the relative importance of specific **criteria**. The three variables considered to be of greatest importance are, in rank order, speed plus reliability, rates, and the security and safety of freight. Davies and Gunton 27! note criticism of this list, questioning its validity in a trade recession.

The literature, to date, has therefore primarily investigated the **criteria** used in the process of **selecting** a carrier. However, the subject of investigation has invariably been the shipper and not the freight forwarder. An exception is a commercial research project undertaken by Pilot Air Freight. This project investigated customers', including freight forwarders', buying behaviour when **selecting** air carriers. However, due to the commercial significance of these results, further details are not available 28!.

More recently, American results from a study that incorporated freight forwarders 29! indicated that "situational" considerations play a key role in choice decisions. Price was less important to freight forwarders than anticipated. The authors concluded with a plea for more research among non-shipper groups such as freight forwarders.

Apparently, no empirical UK study has yet investigated the buying process of freight forwarders selecting a carrier for air freight. However, a "general" model investigating the needs of industrial buyers of freight transportation services has been developed, and is discussed below.

#### A GENERALIZED MODEL

Davies and Gunton 27! unified previous models into a generalized model which applies the needs of buyers of freight transportation services to Maslow's "hierarchical model of needs" 31!: Davies and Gunton's model 27! both identifies and establishes a means of determining the relative importance of criteria. They assert that the criteria used by freight buyers can be categorized into four dimensions-namely, risk reduction, price, ease of use and company image:

(1) Risk reduction. The tendency of industrial buyers to reduce perceived risk 1! implies that buyers employ the services of carriers who ensure the maintenance of their own reputation. Within this dimension such "technical" 25! criteria as speed of transit, frequency of departures, security of consignments and the consistency of a carrier's performance may be evaluated by freight forwarders.

(2) Price. Industrial buyers will always incorporate price influences into the buying process. However, other financial considerations such as credit



facilities and nett billing may also be reviewed by freight forwarders.

(3) Ease of use. While industrial buyers are thought to engage in "extended problem solving", freight buyers, in reality, limit the effort they expend<sup>11</sup>. Thus, ease of use **criteria** such as offering consolidation services, having knowledge of a forwarder's operations and the degree of possible integration with a forwarder's schedules may be significant in the forwarder's **selection** of a carrier.

(4) Company image. Product offerings include not only tangible aspects but also intangible facets. Consequently, the quality of promotional material and courtesy of staff may also be analysed by freight forwarders when evaluating potential carriers.

Buyers are human and, as such, are motivated by psychological factors. Maslow sought to explain an individual's motivation using a hierarchical model, where individuals first satisfy their basic needs before focusing on higher needs. The core concept of this model is noted by Davies and Gunton as they explain, "in this type of model, referring to one factor as being more important is less precise than the understanding that all factors will eventually be considered if other factors have been found acceptable"<sup>27</sup>. Employing this notion, they claim that buyers will only turn to "objective appraisal methods" when all four criteria dimensions have been satisfied in full, by at least two suppliers.

Maslow<sup>30</sup> notes the limitations of his model, recognizing that most individuals will not be motivated to satisfy all needs but will tolerate only partial satisfaction. Davies and Gray<sup>11</sup> echo this by noting the reality of satisfactory, as opposed to optimum, decisions.

Buyers will have differing orders of needs. However, as Maslow explains, "Despite variations between individuals in their needs . . . there is a tendency for common needs to evolve"<sup>31</sup>, p. 52<sup>1</sup>. The validity of Davies and Gunton's application of Maslow's model is seen in the consideration that, while price will always be a criterion in any organizational buying decision, it is not viewed in isolation but, rather, is considered in conjunction with other factors such as risk reduction. Therefore, price is one layer in the hierarchy of a buyer's needs. This is represented diagrammatically in Figure 2. (Figure 2 omitted) This notion of a hierarchical buying process is explained by Davies and Gunton as follows: "The buyer proceeds up the hierarchy of needs until all available alternatives are exhausted, in other words the decision is made"<sup>1</sup>, p. 8<sup>1</sup>.

As stated earlier, the aims of this article are two-fold: first, to investigate the buying behaviour of air freight forwarders; and, second, to investigate the validity of Davies and Gunton's hierarchical model of needs within this buying situation. This section had discussed the buyclass approach to understanding buyer behaviour and has also introduced the hierarchical model. Neither of these approaches is new, but it is rare for them to be tested. The research attempts to do this in the air freight forwarding market.

#### RESEARCH METHODOLOGY

To achieve the above aims, a primary research study was undertaken, utilizing personal interviews and questionnaires to discover the opinions, behaviour and needs of freight forwarders when purchasing the services of an air carrier. As noted earlier, there is a degree of ambiguity over the term "freight forwarder" and in the identification of relevant companies. A frame of reference was, therefore, sought and obtained from the British Institute of Forwarding Agents (BIFA). This comprised details of 155 trading members in Scotland, of which 138 engaged in forwarding air freight. According to BIFA this represents a complete list of air freight forwarders in Scotland. Clearly, a survey of all freight forwarders in the UK would have been desirable, but was simply too large an exercise. It was decided to concentrate on the Scottish market for size reasons, but also because it represents a discrete market and is one that is undergoing an interesting period of change, with developments at Glasgow and Prestwick

Airports. This list, therefore, comprised the survey population.

Utilizing the literature examined earlier, a questionnaire was designed to obtain details about buying behaviour and the needs of these freight forwarders. A series of interviews with two freight forwarders and a trade body representative was undertaken to broadly discuss the issues, and to ensure that the secondary research had covered the appropriate topics. These interviews also enabled the questionnaire to be developed and refined. To test the effectiveness of the questionnaire, a pilot study was conducted with a total of six freight forwarders in the Glasgow area. The questionnaires, in these instances, were completed in the presence of one of the authors to allow discussion about contentious points or wording and to ascertain any difficulty in completion. Several amendments were felt necessary following an analysis of the responses and suggestions made by the pilot test respondents.

The revised questionnaire (copies of which can be obtained from the authors) was mailed, in January 1992, to the 138 freight forwarders from the BIFA list. From these, a total of 87 questionnaires were returned, providing a response rate of 63 per cent. Of these, however, two were blank as the businesses were in receivership, nine claimed that they no longer acted as freight forwarders, and a further ten were incomplete by the return date. Thus, a total of 66 questionnaires were included in the analysis, i.e. an effective response rate of 48 per cent, which is a high response rate for a postal survey. Given the nature of the survey population, no disaggregation by activity/size etc. of the companies was attempted, but it is believed that the response rate is sufficient that the views obtained are representative of air freight forwarders in Scotland. It is recognized and accepted that it is a limitation of the approach taken that opinions rather than behaviour are really identified, but it is felt that this is an appropriate initial stage of research into this subject.

#### ANALYSIS OF RESULTS

The respondents indicated that they believed they offered a comprehensive service to their shippers and that this was on a global basis. The major destinations were Europe, North America and the Far East. The respondents were mixed in their views about preferring to deal direct with airlines (59 per cent) or working through agents (40 per cent), such as Servisair. The preference for dealing direct with airlines was founded on the service and rates provided. Cross-tabulation to investigate these differences suggested that it was particularly evident that freight forwarders preferred dealing direct on the North American route, because of the rates charged. This accords with recent changes in the Scottish market where airlines have cut rates in an attempt to raise market share. However, those preferring agents indicated that this was due to consolidation, service, credit facilities and the presence of a local office. What these broad parameters show is that both task and non-task reasons were identified and that, indeed, there seems to be a preference for certain key features (needs) to be addressed before other issues become important.

The main analysis of the responses is undertaken here under the broad headings of information, buyclass, motivation, **selection criteria** and model validity.

#### INFORMATION

Previous research (discussed earlier) indicated that five major sources of information (identified in Table I) are used by buyers of freight transportation services to create a list of alternative carriers. (Table I omitted) These were entered on the questionnaire for the respondents. A limited number of respondents (4.6 per cent) claimed that information is obtained from sources other than those listed. These respondents specified information sources or directories such as The ABC Freight Guide.

Table I shows that "word of mouth" and "promotional material" are viewed as

the least common sources of information by the respondents. "Sales calls" were noted by only 11.4 per cent of respondents as, uncharacteristically within industrial marketing, suppliers, i.e. carriers, do not widely visit clients. It is, therefore, not surprising that respondents do not deem this information source to be of great importance. Market analysis (e.g. 11!) indicated the possibility of some freight forwarders being limited in their choice of carriers, due to shippers specifying preferred carriers. In fact, almost 20 per cent of respondents claimed that this is indeed a factor in developing choice sets.

By far the most important information source identified by respondents (48.5 per cent) was past experiences. Arguably, this implies that a modified re-buy buyclass is dominant, as minimal information search occurs--a characteristic feature of a modified re-buy buyclass. It could also be argued that, for some freight forwarders, their past experiences translate into a straight re-buy situation.

#### BUYCLASS

Freight forwarders can receive regular routine orders and, as seen in Table II, 25.8 per cent of respondents operate with a degree of source loyalty, allocating business to one carrier without any further information search. (Table II omitted) This is clearly a straight re-buy decision. However, even for routine orders, this is not the dominant method of selection. The majority of respondents, 69.7 and 66.7 per cent for new and routine orders respectively, engage in minimal problem solving, considering two or three carriers before making a selection. Therefore, the dominant buyclass is indeed seen to be one of modified re-buy. There is evidence of a slightly wider choice when the order is new rather than routine, with more respondents indicating that they select from among more than three carriers.

#### MOTIVATION

Respondents were asked to indicate the size of the buying centre, i.e. the decision-making unit. In 62 per cent of cases, the buying centre comprised only one individual, with a further 29 per cent stating that two individuals were involved. The restricted size of the decision-making group means that motivation is very important. Buyers are influenced by non-task variables, such as perceived risk. From the survey, 57.6 per cent of respondents indicated that they felt the risk in purchasing carriers' services was high. There is, therefore, a degree of nervousness around decision making. Anderson and Chambers 31! claim that organizational buyers are motivated by the potential of receiving intrinsic and extrinsic rewards. If carriers can ascertain which rewards are dominant in this buying decision, product offerings to the freight forwarders can be enhanced, maximizing the rewards desired by decision makers.

Table III illustrates the dominant motivations of respondents when purchasing air transportation services. (Table III omitted) The forwarders' principal reward is seen to be personal satisfaction, with 80.3 per cent of respondents receiving this reward, though a substantial number (19.7 per cent) of respondents claimed to receive no reward at all. A total of 6.1 per cent of respondents claimed to receive rewards other than those listed. These were identified as being "relief" and also "a sense of value from creating a potentially loyal customer". These results suggest that personal relationships are important in this marketplace.

#### SELECTION CRITERIA AND MODEL VALIDITY

To understand the selection criteria, and to test the model validity, respondents were asked to rate a series of factors on a scale of one (low) to ten (high) with respect to each factor's contribution to selecting a carrier. Table IV lists the factors under dimension headings. While respondents would have received the factors in the same order as in the table, the dimensions were not provided as headings. These

dimensions are those of the hierarchical stages in the model being tested.

From the mean scores from all respondents for each factor it is possible to rank the relative importance of the factors within their dimensions (see Table IV). (Table IV omitted) Having identified the mean score and ranking order of the factors, an average value, on a scale of one to ten, can be calculated for each dimension. As seen in Figure 3, the order of importance of each dimension corresponds broadly to the hierarchical model developed by Davies and Gunton 27!. (Figure 3 omitted)

Table IV provides a variety of pointers to the relative importance of **selection criteria** and dimensions in the decision-making process. From the mean scores in Table IV, it is clear that the key dimension is that of risk reduction, with the average scores for each factor being high. Indeed, it is only occasionally that other factors come close to the mean scores recorded under the risk reduction dimension. Of these, only the factor of "rates offered" would replace any of the risk reduction factors in a "top six" factor list. The position among the other three dimensions is more confusing and the scores are similar (with the exception of two factors in the company image dimension). (It should be recalled that these dimensions stem from previous research and were not identified by the respondents.) It is equally plausible, therefore, to consider the factors themselves and, in this case, the "ease of contact" factor would have come high up the listing. Indeed, it is a feature of the scores that service, in a broad sense, is seen to be very important. In the case of risk reduction, these are the tangible elements of service, but the other more intangible elements also score well. Within the industry, there is a generally held belief that price, rather than service, is the primary criterion governing carrier **selection**. This notion, though inaccurate in **terms** of this study's results, is seen to have a rational basis, in that satisfactory, as opposed to optimum, buying behaviour appears to be present. In turn, buyers are seen to compromise among **criteria**, satisfying their basic needs in full, i.e. risk reduction, and subsequently compromising total satisfaction of higher needs. Following the buying decision process through, as defined by Davies and Gunton 28!, buyers, on achieving full satisfaction of basic needs, seek to achieve full satisfaction of higher needs, i.e. price. If a supplier's offerings fail to achieve this basic satisfaction, business will indeed be refused on the basis of price. Thus, while carriers may be refused on price, this factor, as Figure 3 illustrates, is not the primary criterion governing freight forwarder's carrier **selection** decisions.

Companies can devise marketing strategies that maximize the total utility of product offerings for customers, to exploit this hierarchy of needs and the presence of a dominant modified re-buy buyclass. Such strategies should not promote higher order factors until it is established, in the buyer's perception, that all their basic needs can be satisfied. Despite the competitive nature of this industry, freight forwarders must realize that price promotion alone will prove ineffective.

What Table IV and Figure 3 demonstrate is that there is a clear requirement for carriers (and/or agents) to position themselves and their offering towards freight forwarders. (Figure 3 omitted) In the first instance, it is vital to be in a position to reduce risk for freight forwarders by offering and delivering the tangible dimensions of service. The basic requirement is to have confidence in the operations. This is then compounded by the need to offer attractive rates. Clearly, freight forwarders are not likely to build a long-term relationship with a cheap operation that does not deliver consistently. The price issue is then followed by the less tangible elements of service, i.e. the relationship components.

In essence, these rankings also explain the buyclass. Companies have experience of a number of carriers and, in making their choices, will draw on their experience of their performance and also check the price. A service strategy of consistent accuracy and timeliness would seem to be appropriate.

" The survey documented here had the relatively limited objectives of investigating buying decisions and one particular model. The limitations are recognized and accepted. The work does show, however, that in this market there is concern over relationships and it can be speculated that this relationship approach is becoming more important. The findings here, therefore, support the notion that buyer/seller relationships are important and that more importance is attached to service than to price in these relationships. The buyer/seller literature has not been examined in full here, but the current study has some links to the work of the IMP Group 33!, which could be usefully extended in future studies.

#### CONCLUSION

Studies of the buying decision making of organizations such as air freight forwarders are comparatively rare, despite the importance such intermediaries have in the marketplace. The study of air freight forwarding in the Scottish market reported here suggested that both task and non-task factors are important, and that the dominant buyclass is one of modified re-buy. In particular, it found that price is not the key determinant, although it remains an important one. This finding replicates similar recent findings in North America and, clearly, is of importance in understanding how to undertake business through such freight forwarders. In particular, it concluded that it is the total product offering which is crucial for long-term relationship building rather than any short-term promotional activity focusing on price. This is clearly associated with developments in relationship marketing and extensions to buyer/seller relationships.

By emphasizing the total range of the product offering, companies are better able to form more stable relationships. It is interesting to speculate about whether the introduction of new technology, particularly Electronic Data Interchange (EDI), will alter these relationships. By providing electronic links and increasing the opportunities for comparing operators, it will change the competitive situation and alter the buying behaviour of forwarders.

#### REFERENCES

1. Davies, G.J. and Gray, R., Purchasing International Freight Services, Gower, Aldershot, 1985.
2. Hastings, P., "A Tough Year for Traditional Operators", Financial Times, 4 December 1991.
3. Jeffrey, P.H., "JIT. Where Does it Begin and End?" Focus Institute of Logistics and Distribution Management, Vol. 6, December 1989, pp. 10-12.
4. McKinnon, A.C., Physical Distribution Systems, Routledge, London, 1989.
5. Worldshiper, "Flying for Survival": March/April 1990, pp. 17-20.
6. Institute of Logistics and Distribution Management, Report on the Market and Express Good Services between the UK and Europe, North America and the Far East, Institute of Logistics and Distribution Management, Corey, Northants.
7. "Tough Times for Traditional Carriers", Airtrade, October 1991, pp. 31-3.
8. McKenna, J.T., "Airlines Boost International Cargo Services to Protect Market Shares", Aviation Week and Space Technology, November 1989.
9. Smith, P., Airfreight, Faber and Faber, London, 1974.
10. Gates, A.C., "A Brief Introduction to Freight Forwarders", Institute of Freight Forwarders (IFF), London, undated.

11. "Key Note Report": Freight Forwarders, ICC Group publication, 1987.
12. Ross, D., "Air Freight", in Gattorna, J. (Ed.), Handbook of Physical Distribution Management, 3rd ed., Gower, Aldershot, 1983, Ch. 13.
13. Hutt, M.D. and Speh, W., Business Marketing Management, 3rd ed., The Dryden Press, New York, NY, 1989.
14. Webster, F.E. and Wind, Y., Organisational Buying Behaviour, Prentice-Hall, Englewood Cliffs, NJ, 1972.
15. Moriaty, W.R., Industrial Buying Behaviour, Lexington Books, MA, 1983.
16. Robinson, P.J., Faris, C.W and Wind, Y., Industrial Buying and Creative Marketing, Allyn and Bacon, Boston, MA, 67.
17. Mentzer, J.T., Gnomes, R. and Krapfel, R.E., "Physical Distribution Service: A Fundamental Marketing Concept", Journal of the Academy of Marketing Science, Vol. 17 No. 1, Winter 1989, pp. 53-62.
18. Shaw, A.W., Some Problems in Market Distribution, Harvard University Press, Cambridge, MA., 1915 (reprinted 1951).
19. Cook, W.R., "Transport Decisions of Certain Firms in the Black Country", Journal of Transport Economics and Policy Vol. 1 No. 3, 1967, pp. 325-44.
20. Brooks, M., "Limitations in the Carrier Choice Process", International Journal of Physical Distribution and Materials Management, Vol. 15 No. 3, 1985, pp. 38-45.
21. Cunningham, M.T. and Kettlewood, K., "Source Loyalty in the Freight Transport Market", European Journal of Marketing, Vol. 10 No. 1, 1976, pp. 66-79.
22. Saleh, EA. and La Londe, B.J., "Industrial Buying Behaviour and the Motor Carrier Selection Decision", Journal of Purchasing. February 1972, pp. 18-33.
23. Day, A., "Who Cares about International Freight?", International Journal of Physical Distribution and Materials Management, Vol. 21 No. 4, 1991, pp. 29-31.
24. Stock, J.R., "How Shippers Judge Carriers", Distribution World Wide, August 1976, pp. 32-5.
25. Anderson, R.D., Jerman, R.E. and Constatin, J.A., "Buyer and Seller Perceptions of Transportation Purchasing Variables", Industrial Marketing Management, Vol. 7 No. 1, 1978, pp. 60-4.
26. McGinnis, M.A., "Shipper Attitudes Toward Freight Transportation Choice", International Journal of Physical Distribution and Materials Management, Vol. 10 No. 1, 1979, pp. 25-34.
27. Davies, G.J. and Gunton, C.E., "The Buying of Freight Services: The Implications for Marketers", Quarterly Review of Marketing, Vol. 8, 1983, pp. 1-10.
28. Global Trade, "Pilot Air Freight Defines Quality Transport Services", Vol. 108 No. 7, July 1988, p. 20.
- ✓ 29. Murphy, P.R., Daley, J.M. and Dalenberg, D.R., "Selecting Links and Nodes in International Transportation: An Intermediary's Perspective", Transportation Journal, Vol. 31, 1991, pp. 33-40.
30. Maslow, A.H., Motivation and Personality, Harper & Row, New York, NY,

1970.

31 Anderson, P. F. and Chambers, T.M., "A Reward/Masurement Model of Organisational Buying Behaviour", Journal of Marketing, Vol. 49, 1985, pp. 7-23.

32. Hakansson, H. (Ed.), International Marketing and Purchasing of Industrial Goods, Wiley, Chichester, 1982. ✓

Mark Lillie is a graduate of the Department of Marketing and Leigh Sparks is a Professor of Retail Studies at

THIS IS THE FULL-TEXT. Copyright MCB University Press Ltd 1993  
GEOGRAPHIC NAMES: Scotland

DESCRIPTORS: Freight forwarding; Models; Air freight service; Decision making; Purchasing; Behavior; Studies

CLASSIFICATION CODES: 8350 (CN=Transportation industry); 9175 (CN=Western Europe); 2500 (CN=Organizational behavior); 9130

File 350:Derwent WPIX 1963-2001/UD,UM &UP=200151  
(c) 2001 Derwent Info Ltd  
File 347:JAPIO OCT 1976-2001/May(UPDATED 010905)  
(c) 2001 JPO & JAPIO  
File 344:CHINESE PATENTS ABS APR 1985-2001/Aug  
(c) 2001 EUROPEAN PATENT OFFICE

Set	Items	Description
S1	1188542	VEHICLE? OR AUTO/FW OR AUTOS/FW OR AUTOMOBILE? OR AUTOMOTIVE OR (CAR OR CARS OR VAN OR VANS OR SUV OR SUVS)/FW OR TRUCK? ?
S2	546275	ACCESSORY? OR OPTIONS OR OPTIONAL(3W) (EQUIPMENT OR FEATURE? ?) OR EQUIPMENT(2W) PACKAGE? ? OR COLOR?? OR COLOUR?
S3	151427	PREVIEW? OR VISUAL? OR TRY???()OUT OR (DISPLAY? OR SHOW? OR DEPICT?) (3N) (APPEAR? OR INSTALL?) OR SEE/FW OR SEEING OR INTERACTIVE?
S4	175340	S3 OR (VIRTUAL OR DIGITAL) (3N) (IMAGE? OR IMAGING OR DEALER? OR SHOWROOM? OR MODEL?)
S5	14560	(SELECT? OR PICK? OR LIST? OR MENU? OR CHOOS? OR CHOSEN) (7-N) (MAKE? ? OR MODEL??? OR STYLE)
S6	2	S1 AND S2 AND S4 AND S5
S7	215	S1(10N)S2 AND S4
S8	116	S1(5N)S2 AND S4
S9	18	S8 AND (INTERNET? OR ONLINE OR ON()LINE OR WEB OR DIGITAL? OR VIRTUAL OR IC=G06F OR DC=T01 OR SOFTWARE OR COMPUTER?)
S10	18	S9 NOT S6
S11	13	S10 NOT (CAMERA? OR VIDEO OR PRINTER? OR GPS)/TI
S12	28549	PREVIEW? OR VISUAL? OR TRY???()OUT OR (DISPLAY? OR SHOW? OR SEE??? OR SEE OR DEPICT?) (5N) (APPEAR? OR INSTALL? OR LOOK? - ??)
S13	24	S1(5N)S2 AND S12
S14	22	S13 NOT (S6 OR S9)
S15	4	S14 AND (INTERNET? OR ONLINE OR ON()LINE OR WEB OR DIGITAL? OR INTERACTIV? OR REALTIME OR REAL()TIME OR VIRTUAL OR IC=G06F OR DC=T01 OR SOFTWARE OR COMPUTER?)
S16	1160982	VEHICLE? OR AUTOMOBILE? OR AUTOMOTIVE OR (CAR OR CARS OR VAN OR VANS OR SUV OR SUVS)/FW OR TRUCK? ?
S17	2240	S1(7N) ( ACCESSOR? OR OPTIONS OR OPTIONAL(3W) (EQUIPMENT OR - FEATURE? ?) OR EQUIPMENT(2W) PACKAGE? ?)
S18	68650	(SELECT? OR PICK? OR LIST? OR MENU? OR CHOOS? OR CHOSEN) (1-ON) (MAKE? ? OR MODEL??? OR STYLE OR VEHICLE? OR MENU?? OR PARTS OR WHEEL? ? OR ACCESSORIES)
S19	43113	BUY? OR SELL??? OR PURCHAS? OR SALE OR SALES OR SOLD OR BOUGHT OR (SHOPPING OR VIRTUAL) (2W) (CART? ? OR KART? ?)
S20	3	S17 AND S18 AND S19
S21	3	S20 NOT (S6 OR S11 OR S15)
S22	76839	S1(5N) (WHEEL? ? OR TIRE OR TIRES OR TYRE OR TYRES)
S23	1	S11 AND S12
S24	0	S23 NOT (S6 OR S11 OR S15 OR S21)
S25	0	AU=(BERMAN C? AND BRANHAM R?)
S26	32	AU=(BERMAN C? OR BRANHAM R?)
S27	0	S26 AND (S22 OR S17)
?		



=====

COMMERCIAL DATABASE SEARCH FOR 09/400600

-----

*		*
*	Prepared for: Carlos Azpuru, 2165	*
*		*
*	By : Ellen Lytton, EIC2100 4C33 (305-0757)	*
*		*
*	Date : September 14, 2001	*
*		*

-----

Carlos:

Attached is the search you requested on the internet system to sell automotive accessories in which the car is show with the selected accessories. I based the search on your notes and the claims.

In addition to the search, you will also find a search report in the packet for a PCT WO 01/11500 that reads closely on your invention. I did a search last week for another examiner on a topic very close to yours. The examiner gave me a copy of the search report he found which I am passing on to you.

We also have two software/cd packages in the EIC2100 collection that show the listing of accessories (namely wheels) for cars. The two packages are:

PitStop Interactive Wheel Fitment Guide - TL 270.P58 1997  
Autoware Technologies Demo Software Softwheels - TL 270.A98 2000

Please let me know if you need any further assistance, or if you would like to refocus or modify the search in any way.

Ellen

21/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

013342720 \*\*Image available\*\*  
WPI Acc No: 2000-514659/200046  
XRPX Acc No: N00-380398

**After market accessories selling method for vehicle sales, involves storing dealer defined list in host computer system and displaying list to potential buyer in response to request for information about vehicle**

Patent Assignee: AUTOBYTEL.COM INC (AUTO-N)  
Inventor: NELSON T E  
Number of Countries: 089 Number of Patents: 002  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200042541	A2	20000720	WO 2000US1035	A	20000114	200046 B
AU 200025072	A	20000801	AU 200025072	A	20000114	200054

Priority Applications (No Type Date): US 99231898 A 19990114

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 200042541	A2	E	30	G06F-017/60	
--------------	----	---	----	-------------	--

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN  
CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP  
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE  
SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200025072	A			G06F-017/60	Based on patent WO 200042541
--------------	---	--	--	-------------	------------------------------

Abstract (Basic): WO 200042541 A2

NOVELTY - A dealer defined **list** of after market **accessories** (416) for a specific **model** of **vehicle** is generated and stored in a host computer system. A request for information regarding vehicle from potential **buyer** is received by the host system via a computer network. In response to request, the **list** is displayed to **buyer**. A **purchase** request for **accessories** selected by **buyer** from **list** is received by the host system.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (a) system to facilitate commercial transaction;
- (b) program for matching potential **buyers** of core product with **sellers** of core product;
- (c) computer implemented system for **selling** accessories of core product;
- (d) computer implemented method for initiating **sales** transaction of merchandise between potential **buyer** and **seller** of merchandise

USE - Used in **vehicle** **sale** to **sell** after market **accessories** via computer network.

ADVANTAGE - The computerized **purchase** request communication system facilitates a real-time communication of a **purchase** request to a system determined **seller**. The host system provides direct and immediate access into the exclusive database region and the access enables the user to immediately notify any newly created **purchase** request and inventory on the database.

DESCRIPTION OF DRAWING(S) - The figure shows the representation of new vehicle record.

After market accessories (416)  
pp; 30 DwgNo 4/11

Title Terms: AFTER; MARKET; ACCESSORY; **SELL** ; METHOD; VEHICLE; **SALE** ;  
STORAGE; DEAL; DEFINE; LIST; HOST; COMPUTER; SYSTEM; DISPLAY; LIST;  
POTENTIAL; **BUY** ; RESPOND; REQUEST; INFORMATION; VEHICLE

Derwent Class: T01

International Patent Class (Main): G06F-017/60

File Segment: EPI

21/5/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

012130253 \*\*Image available\*\*

WPI Acc No: 1998-547165/199847

XRPX Acc No: N98-426395

**Motor-vehicle display system for sales - includes display unit to display specifications of motor vehicle recently added through multimedia information**

Patent Assignee: HITACHI LTD (HITA )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 10240800	A	19980911	JP 9745264	A	19970228	199847 B

Priority Applications (No Type Date): JP 9745264 A 19970228

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10240800	A		18	G06F-017/60	

Abstract (Basic): JP 10240800 A

The system includes a set of keyboard and scanner (201,203) to perform input specifications as multimedia information. A processor is provided along with a display unit to display the information regarding the previous **models** of the motor-**vehicle**. An outline **selection** of the motor **vehicle** is performed by providing input specifications regarding budget and the additional **accessories** of the motor **vehicles**.

Whenever a new specification is **chosen** from the specification **list**, the motor **vehicle** with the additional specification is displayed for confirmation of the specifications. When all the specifications are made, an estimation of amount is made for the vehicle and order for the vehicle is received.

ADVANTAGE - Performs accurate estimation.

Dwg.2/25

Title Terms: MOTOR; VEHICLE; DISPLAY; SYSTEM; **SALE**; DISPLAY; UNIT;

DISPLAY; SPECIFICATION; MOTOR; VEHICLE; RECENT; ADD; THROUGH; INFORMATION

Derwent Class: T01

International Patent Class (Main): G06F-017/60

File Segment: EPI

21/5/3 (Item 3 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

011225614 \*\*Image available\*\*

WPI Acc No: 1997-203517/199719

XRPX Acc No: N97-168170

**Automated audio presentation method for promoting automobile sales - storing audio presentation in audio playback unit, placing unit at automobile, and reproducing presentation when customer is in proximity**

Patent Assignee: VADCOM LTD (VADC-N)

Inventor: BOCHER R I; CALDER B H; FINE R M; MORGULIS V A

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2153530	A	19970111	CA 2153530	A	19950710	199719 B

Priority Applications (No Type Date): CA 2153530 A 19950710

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CA 2153530	A		29	G09F-025/00	

Abstract (Basic): CA 2153530 A

The method for promoting automobile **sales** uses a central station that maintains a data base of audio presentation segments relating to a

wide range of new and used vehicles. A subscribing **sales** agency logs onto a computer of the central station and identifies a particular vehicle by make, year and model. The station computer then presents multiple **options** characteristic of the specified **vehicle** allowing the subscribing agency to **select** present **options**. In response to the user **selection**, the central station retrieves audio presentation segments appropriate for the **vehicle**, concatenates them to compose an audio presentation, then transmits the presentation over telephone lines to the agency.

A portable playback unit is coupled to the agency's computer to receive the transmitted presentation. The playback unit is then located on the dashboard of the vehicle, empowered with an appropriate adapter from the cigarette lighter of the vehicle. An optical sensor faces the windshield and triggers playback when a potential customer waves his hand over the windshield.

ADVANTAGE - Provides consistent and accurate vehicle information to customers.

Dwg.1/9b

Title Terms: AUTOMATIC; AUDIO; PRESENT; METHOD; PROMOTE; **AUTOMOBILE** ;  
**SALE** ; STORAGE; AUDIO; PRESENT; AUDIO; PLAYBACK; UNIT; PLACE; UNIT;  
AUTOMOBILE; REPRODUCE; PRESENT; CUSTOMER; PROXIMITY

Derwent Class: P85; T01; W01; W04; W05; X22

International Patent Class (Main): G09F-025/00

File Segment: EPI; EngPI

?

• 6/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

012409072 \*\*Image available\*\*  
WPI Acc No: 1999-215180/199918  
XRPX Acc No: N99-158345

**Interactive computer configuration system for aiding user interaction  
for solving configuration problems**

Patent Assignee: BAAN FRONT OFFICE SYSTEMS AS (BAAN-N); BAAN DEV BV  
(BAAN-N); BEOLOGIC AS (BEOL-N)

Inventor: SKOVGAARD H J R; SKOVGAARD H J

Number of Countries: 083 Number of Patents: 004

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9913411	A2	19990318	WO 98DK385	A	19980909	199918 B
AU 9890626	A	19990329	AU 9890626	A	19980909	199932
EP 1016007	A2	20000705	EP 98942509	A	19980909	200035
			WO 98DK385	A	19980909	
US 6272390	B1	20010807	US 97998621	A	19971229	200147

Priority Applications (No Type Date): DK 971030 A 19970909

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9913411 A2 E 44 G06F-017/30

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU  
CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR  
LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM  
TR TT UA UG US UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR  
IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

AU 9890626 A Based on patent WO 9913411

EP 1016007 A2 E G06F-017/30 Based on patent WO 9913411

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI  
LU MC NL PT SE

US 6272390 B1 G06F-019/00

Abstract (Basic): WO 9913411 A2

NOVELTY - A user interacts with the computer systems and successively makes many choices which are checked for validity, for aiding sales person or customer to easily grasp and configure a large configuration problem.

DETAILED DESCRIPTION - The user interacts with the computer systems and makes many choices successively which are checked for validity by a configuration engine which comprises a configuration **model** defining mutual predefined relationships between the **selectable** elements, and comprises programs for validating a set of choices against the configuration model. The system responds to the situation in which a requested choice made by the user corresponds to an invalid configuration scheme. The system therefore aids a sales person or customer to easily grasp and configure a large configuration problem.

USE - Aiding sales person or customer to easily grasp and configure a large configuration problems using computer acting as configuration aid e.g. configuring a **car**, i.e. choosing specific combination of engine, paint, **accessories** etc. Or configuring computer system comprising of CPUs, discs, monitors, etc. Enables invalid choices in **interactive** configuration systems.

ADVANTAGE - Lowest possible number of choices to be undone is first presented to the user. Allows a user, during an alternative investigation process, to make previous choices cardinal choices, such that relevance of proposals for obtaining alternatives is enhanced.

DESCRIPTION OF DRAWING(S) - The drawing shows a flow chart explanation of a preferred embodiment.

pp; 44 DwgNo 1/6

Title Terms: INTERACT; COMPUTER; CONFIGURATION; SYSTEM; AID; USER; INTERACT  
; SOLVING; CONFIGURATION; PROBLEM

Derwent Class: T01

International Patent Class (Main): G06F-017/30; G06F-019/00

11/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

013805984 \*\*Image available\*\*

WPI Acc No: 2001-290196/200130

XRPX Acc No: N01-207321

Computerized **vehicle** visualization method for Internet based system, involves superimposing accessory photograph onto the vehicle photograph on computer display, in response to user defined accessory combination

Patent Assignee: HIGH TECHNOLOGY SOLUTIONS INC (HIGH-N)

Inventor: BOONE J; DIVINE J M; GOETZ N; MCCLOUD D; MORAN B; YOUNG M

Number of Countries: 094 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200111500	A1	20010215	WO 2000US21398	A	20000804	200130 B
AU 200065214	A	20010305	AU 200065214	A	20000804	200130

Priority Applications (No Type Date): US 99369483 A 19990805

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
-----------	------	-----	----	----------	--------------

WO 200111500	A1	E	29	G06F-017/30	
--------------	----	---	----	-------------	--

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200065214	A			G06F-017/30	Based on patent WO 200111500
--------------	---	--	--	-------------	------------------------------

Abstract (Basic): WO 200111500 A1

NOVELTY - The photographs of **vehicle** and **accessories** taken separately are **digitally** stored. The **digitally** stored photographs are accessed for superimposing the **vehicle** and **accessory** photographs on a computer display, in response to the user defined accessory combinations. The superimposed user defined accessory combinations are **visualized**.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the program product.

USE - For **visualizing vehicle** e.g. **car** with **accessories** for promoting sale of **vehicle** in **Internet**, dealership based systems.

ADVANTAGE - Enables user to **visualize vehicle** having used defined **accessories** and **color** via **Internet**.

DESCRIPTION OF DRAWING(S) - The figure shows the flow chart explaining the vehicle **visualization** method.

pp; 29 DwgNo 3/72

Title Terms: VEHICLE; METHOD; BASED; SYSTEM; SUPERIMPOSED; ACCESSORY; PHOTOGRAPH; VEHICLE; PHOTOGRAPH; COMPUTER; DISPLAY; RESPOND; USER; DEFINE; ACCESSORY; COMBINATION

Derwent Class: T01 ; T02

International Patent Class (Main): G06F-017/30

International Patent Class (Additional): G06F-017/60 ; G06G-007/70; G06T-011/60

File Segment: EPI

11/5/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

013535923 \*\*Image available\*\*

WPI Acc No: 2001-020129/200103

XRPX Acc No: N01-015399

**Image and waveform memory for gear oscillating sensor in motor vehicle, produces digital waveform and image data relevant to recognition of trigger signals, to perform simultaneous display of sampled data**

Patent Assignee: YOKOGAWA DENKI KK (YOKG )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000292448	A	20001020	JP 9998471	A	19990406	200103 B

Priority Applications (No Type Date): JP 9998471 A 19990406

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 2000292448	A	5	G01R-013/20	

Abstract (Basic): JP 2000292448 A

NOVELTY - A detector (20) detects the generation of trigger signals based on which analog input signal (10) is converted to **digital** waveform data by A/D converter (12) and is stored in memory (13). When a different trigger signal is recognized, the input signal is converted to **digital image** and is stored in memory (2). A display circuit (30) samples the stored **digital** data simultaneously and displays sampled data.

USE - For storing image and waveform data of gear oscillating sensor in motor **vehicles** and also for recording **color** variation of metals during heating.

ADVANTAGE - Since sampling of **digital** data is done simultaneously, storage efficiency is improved.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of image and waveform memory.

Memories (2,13)

A/D converter (12)

Detector (20)

Synchronous display circuit (30)

pp; 5 DwgNo 1/3

Title Terms: IMAGE; WAVEFORM; MEMORY; GEAR; OSCILLATING; SENSE; MOTOR;

VEHICLE; PRODUCE; **DIGITAL** ; WAVEFORM; IMAGE; DATA; RELEVANT; RECOGNISE;

TRIGGER; SIGNAL; PERFORMANCE; SIMULTANEOUS; DISPLAY; SAMPLE; DATA

Derwent Class: S01

International Patent Class (Main): G01R-013/20

File Segment: EPI

11/5/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

013085415 \*\*Image available\*\*

WPI Acc No: 2000-257287/200023

Related WPI Acc No: 2000-257255

XRPX Acc No: N00-191320

**Traffic data broadcasting system for periodically transmitting traffic speed data files in graphical format over digital audio broadcasting channel has traffic data fusion module**

Patent Assignee: GLOBIS DATA INC (GLOB-N)

Inventor: KIRK B

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
CA 2257438	A1	19991115	CA 2257438	A	19990112	200023 B

Priority Applications (No Type Date): CA 2235184 A 19980515

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
CA 2257438	A1	E	31 G08G-001/052	

Abstract (Basic): CA 2257438 A1

NOVELTY - The system has a traffic data fusion module (2) for receiving at least one raw traffic data stream related to a road section from at least one traffic data source and for processing the raw data stream into a traffic speed data file (22) representing the average current traffic speed in the road section. A transmitter (4) periodically receives the traffic speed data file from the traffic data

fusion module and an interface (6) formats it so that it can be broadcast in graphical raster **image** format over a **digital** audio broadcasting channel to a vehicle.

DETAILED DESCRIPTION - The traffic speed data files are fused from a number of raw traffic data streams (A) related to different road sections. Also broadcast, are background road map files in a raster image format which, when received with the traffic speed data files in an in-vehicle display terminal (12), provides **color** coded road map showing different traffic speeds in different road sections. Additional weather (B) and tourism information can be combined with the traffic data for presentation of a common display on different zones and pages at the receiving end.

An INDEPENDENT CLAIM is included for a method of broadcasting traffic data.

USE - For providing motor vehicle drivers with traffic information to assist in vehicle navigation and also for providing driver with weather and tourism data.

ADVANTAGE - Provides driver with timely traffic information of sufficient clarity and frequency to permit choice or more suitable route to destination at an affordable cost for the in vehicle terminal. Makes use of a number of traffic data sources while taking full advantage of higher bit rate provided by **digital** audio broadcasting.

DESCRIPTION OF DRAWING(S) - The drawing shows elements of the **digital** audio broadcast system.

data fusion module (2)

interface unit (3)

**digital** audio broadcasting transmitter (4)

in-vehicle display panel (12)

traffic speed data files (22)

raw data sources (A)

pp; 31 DwgNo 3/4

Title Terms: TRAFFIC; DATA; BROADCAST; SYSTEM; PERIOD; TRANSMIT; TRAFFIC; SPEED; DATA; FILE; GRAPHICAL; FORMAT; **DIGITAL** ; AUDIO; BROADCAST; CHANNEL; TRAFFIC; DATA; FUSE; MODULE

Derwent Class: S02; T01 ; T07; W02; X22

International Patent Class (Main): G08G-001/052

International Patent Class (Additional): G08G-001/0967

File Segment: EPI

11/5/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

012556302 \*\*Image available\*\*

WPI Acc No: 1999-362408/199931

XRPX Acc No: N99-270426

**Car type discriminating apparatus for classifying whether vehicle is large wagon or not - has information output unit that generates vehicle display output indicating whether vehicle is classified as large wagon based on decision result output by velocity signal light judging unit**

Patent Assignee: MITSUBISHI ELECTRIC CORP (MITQ )

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 11134591	A	19990521	JP 97298349	A	19971030	199931 B

Priority Applications (No Type Date): JP 97298349 A 19971030

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

JP 11134591 A 23 G08G-001/015

Abstract (Basic): JP 11134591 A

NOVELTY - An information output unit (5) generates the vehicle display output indicating whether the vehicle is classified as a large wagon based on the decision result output by the velocity signal light judging unit. DETAILED DESCRIPTION - A color extracting unit (2) generates the color extracting image depending on the color of the



velocity signal light from a **digital** color **image** . The velocity signal light candidate area is detected by a detecting unit (3) from the color extract image, and outputs a corresponding area information. A velocity signal light judging unit (4) evaluates whether the detected candidate area contains one or more velocity signal lights based on any two color-phase distributions of the positional relationship resulting from the combination of several candidate areas. The judging unit also evaluates the candidate area from the variation in the brightness level in the peripheral portion of the velocity signal light candidate area within the **digital image** using the output area information. A corresponding output decision result is then output by the judging unit.

USE - For classifying whether vehicle is large wagon or not.

ADVANTAGE - Unnecessary candidate areas are eliminated beforehand, thus accurately detecting velocity signal light which distinguishes type of vehicle right away. Improves processing speed by minimizing incorrect candidate area detection. DESCRIPTION OF DRAWING(S) - The figure shows the structural block diagram of the **car** type discriminating apparatus. (2) **Color** extracting unit; (3) Detecting unit; (4) Velocity signal light judging unit; (5) Information output unit.

Dwg.1/25

Title Terms: CAR; TYPE; DISCRIMINATE; APPARATUS; CLASSIFY; VEHICLE; WAGON; INFORMATION; OUTPUT; UNIT; GENERATE; VEHICLE; DISPLAY; OUTPUT; INDICATE; VEHICLE; CLASSIFY; WAGON; BASED; DECIDE; RESULT; OUTPUT; VELOCITY; SIGNAL ; LIGHT; JUDGEMENT; UNIT

Derwent Class: T07

International Patent Class (Main): G08G-001/015

International Patent Class (Additional): G08G-001/04

File Segment: EPI

11/5/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

008987245 \*\*Image available\*\*

WPI Acc No: 1992-114514/199214

XRPX Acc No: N92-085601

**Land vehicle navigation apparatus - displays calculated navigation route, with visual indication of actual vehicle travel**

Patent Assignee: MOTOROLA INC (MOTI )

Inventor: LEFEBVRE R K; LEFEBVRE R

Number of Countries: 002 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9204683	A	19920319	WO 91US5968	A	19910821	199214 B
JP 5502521	W	19930428	JP 91516947	A	19910821	199322
			WO 91US5968	A	19910821	
US 5243528	A	19930907	US 90581495	A	19900912	199337

Priority Applications (No Type Date): US 90581495 A 19900912

Cited Patents: US 4763270; US 4782447; US 4796189; US 4896154; US 4897792; US 4951212; US 4992947

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
WO 9204683	A	35		

Designated States (National): JP

JP 5502521 W G09B-029/10 Based on patent WO 9204683

US 5243528 A 14 G06F-015/50

Abstract (Basic): WO 9204683 A

The land vehicle navigation apparatus with **visual** display (20) includes a mechanism for calculating a desired navigation route for a vehicle, via fixed road paths, between a start location and destination location. A further mechanism determines estimated current position of vehicle. The **visual** display (20) displays to the **vehicle** operator, in at least one **colour** , a portion of the calculated navigation route

(22).

The displayed portion includes a number of different road path intersections on a road map display. Actual vehicle travel (23) is displayed on the road map display in a second contrasting colour.

USE/ADVANTAGE - Navigation system **visually** providing vehicle navigation information to vehicle operator in improved minimal comprehension time formed, and allowing vehicle operator to select how to recover from off route condition.

Dwg.2/3

Title Terms: LAND; VEHICLE; NAVIGATION; APPARATUS; DISPLAY; CALCULATE; NAVIGATION; ROUTE; **VISUAL** ; INDICATE; ACTUAL; VEHICLE; TRAVEL

Derwent Class: P85; S02; **T01** ; W06; X22

International Patent Class (Main): **G06F-015/50** ; G09B-029/10

International Patent Class (Additional): G01C-021/00; G08G-001/0969; G09G-005/02

File Segment: EPI; EngPI

**11/5/6 (Item 6 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2001 Derwent Info Ltd. All rts. reserv.

004573583

WPI Acc No: 1986-076927/198612

XRPX Acc No: N86-056299

**Electronic instrument panel esp. for motor vehicle - includes LCD having primary colour stripe filters in which light intensity from background light source is varied**

Patent Assignee: HITACHI LTD (HITA )

Inventor: IGARASHI O; KATO GI K; SUDA S; TOKIYAMA K; YAMAMURA H

Number of Countries: 005 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 174497	A	19860319	EP 85109915	A	19850807	198612 B
US 4752771	A	19880621	US 85768321	A	19850822	198827
EP 174497	B	19910612				199124
DE 3583195	G	19910718				199130
KR 9302495	B1	19930402	KR 855448	A	19850729	199419

Priority Applications (No Type Date): JP 84178376 A 19840829

Cited Patents: A3...8731; GB 2130781; No-SR.Pub

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
-----------	------	--------	----------	--------------

EP 174497	A	E 34		
-----------	---	------	--	--

Designated States (Regional): DE FR GB

EP 174497	B			
-----------	---	--	--	--

Designated States (Regional): DE FR GB

KR 9302495	B1		G01D-011/28	
------------	----	--	-------------	--

Abstract (Basic): EP 174497 B

A transmission type liquid crystal panel (1) receives background illumination from a fluorescent lamp (2) of which the brightness is controlled by a dimmer circuit (3) and drive circuit (6). A coded signal to command the displaying of an appropriate display **colour** according to the prevailing **vehicle** speed is supplied to the liquid crystal driver (4) by a microcomputer (10).

The coded signal is passed, simultaneously to the dimmer circuit by way of a **digital** -analog converter (11) to vary the brightness of the fluorescent lamp according to the colour displayed. The microcomputer provides a read-only store from which the colour code signal is retrieved for varying the lamp brightness.

ADVANTAGE - Regardless of display colour, luminance for human **visual** perception is maintained constant, which allows high ability of **visual** recognition. (34pp Dwg.No.1/16)

Title Terms: ELECTRONIC; INSTRUMENT; PANEL; MOTOR; VEHICLE; LCD; PRIMARY;

COLOUR; STRIPE; FILTER; LIGHT; INTENSITY; BACKGROUND; LIGHT; SOURCE; VARY

Index Terms/Additional Words: COLOUR

Derwent Class: P81; P85; W05; X22

. International Patent Class (Main): G01D-011/28  
International Patent Class (Additional): G02F-001/13; G02F-001/133;  
G09F-009/35; G09G-003/36  
File Segment: EPI; EngPI

11/5/7 (Item 7 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

002150180

WPI Acc No: 1979-H0118B/197933

Colour **fringe suppressor for vehicle headlamp - has mask with curved portions at different spacings from lens**

Patent Assignee: THORN ELECTRICAL IND LTD (THOE )

Inventor: GOULD A V S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 1550336	A	19790815				197933 B

Priority Applications (No Type Date): GB 7529685 A 19750715

Abstract (Basic): GB 1550336 A

The vehicle lamp has an optical system with a mask between the source and lens to form a cut-off in the beam and an optical portion forming an image of the source at or near the mask. The mask has two portions at different spacings from the lens.

The image is formed between the portions. The focus of the projection lens is between the two portion sto form a **virtual** erect **image** of the nearer portion. The mask portions are curved so that the surface of best focus lies midway between the portions.

Title Terms: COLOUR; FRINGE; SUPPRESS; VEHICLE; HEADLAMP; MASK; CURVE; PORTION; SPACE; LENS

Derwent Class: Q16; Q71; X22

International Patent Class (Additional): B60Q-001/14; F21V-013/12

File Segment: EPI; EngPI

11/5/8 (Item 1 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2001 JPO & JAPIO. All rts. reserv.

06317376 \*\*Image available\*\*

THREE-DIMENSIONAL SIMULATOR DEVICE AND IMAGE COMPOSING METHOD

PUB. NO.: 11-258974 [JP 11258974 A]  
PUBLISHED: September 24, 1999 (19990924)  
INVENTOR(s): OUCHI SATOSHI  
APPLICANT(s): NAMCO LTD  
APPL. NO.: 10-354792 [JP 98354792]  
FILED: December 14, 1998 (19981214)  
PRIORITY: 06248691 [JP 946248691], JP (Japan), September 16, 1994 (19940916)  
INTL CLASS: G09B-009/02; A63F-009/22; G06T-017/00; G06T-015/00; G09B-009/34; H04N-005/262; H04N-007/18

#### ABSTRACT

PROBLEM TO BE SOLVED: To provide a three-dimensional simulator device, etc., which can form an image of high quality in real time even when many display bodies gather nearby a viewpoint position.

SOLUTION: This device includes an operation part 12, a **virtual** three-dimensional space arithmetic part 100, an image composition part 200, and a display 10. The degree of precision of a display body is represented by the operation (shape of display body and variation of parts) of the suspensions of a racing **car** and the generation (**color** of display body and variation of luminance) of a backfire. Further, a coordinate converting process and a

- clipping process for representative points of the display body are performed and a display body positioned outside a **visual** field range and a depth range is excluded from subsequent processes. Then a coordinate converting process and a clipping process for polygon data of the display body are performed.

COPYRIGHT: (C)1999,JPO

11/5/9 (Item 2 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2001 JPO & JAPIO. All rts. reserv.

05813676 \*\*Image available\*\*  
DISPLAY DEVICE FOR INTER VEHICLE DISTANCE

PUB. NO.: 10-096776 [JP 10096776 A]  
PUBLISHED: April 14, 1998 (19980414)  
INVENTOR(s): MATSUOKA YASUKAZU  
KIMURA TSUTOMU  
APPLICANT(s): HONDA ACCESS CORP [490434] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 08-273080 [JP 96273080]  
FILED: September 24, 1996 (19960924)  
INTL CLASS: [6] G01S-013/93; B60R-021/00; B60R-027/00; G01S-015/93; G01S-017/88  
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 26.2 (TRANSPORTATION -- Motor Vehicles); 37.2 (SAFETY -- Traffic)  
JAPIO KEYWORD:R002 (LASERS); R011 (LIQUID CRYSTALS)

#### ABSTRACT

PROBLEM TO BE SOLVED: To give a warning of a danger of a rear-end collision without making a driver feel troublesomeness by displaying an inter-vehicle area of a **color** according to a risk of a rear-end collision on a road in a head-up condition on the basis of the inter-vehicle distance and a safe inter-vehicle distance with a preceding vehicle recognized from a traveling condition of one's own vehicle.

SOLUTION: An inter-vehicle distance detecting part 2 detects an inter-vehicle distance by time up to reception of a reflected pulse from sending of a laser pulse of a laser beam sending receiving part 3. A data processor 1 sets an inter-vehicle area having a width in the same degree as one's own vehicle and a length of a detected inter-vehicle distance on a forward road. A safe inter-vehicle distance preregistered in a data memory 5 is read out, and a partial area of a different color according to a risk of a rear-end collision among a preset inter-vehicle distance is determined on the basis of the safe inter-vehicle distance and an actual inter-vehicle distance. Light emission according to a color and luminance of a display image is performed by a two-dimensional light emitting part 6c. A driver looks at a **virtual image** of an inter-vehicle area made on a road by being reflected by front glass 6d in a condition of being superimposed on a forward spectacle.

11/5/10 (Item 3 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2001 JPO & JAPIO. All rts. reserv.

05372439 \*\*Image available\*\*  
HEAD UP DISPLAY

PUB. NO.: 08-327939 [JP 8327939 A]  
PUBLISHED: December 13, 1996 (19961213)  
INVENTOR(s): TAKANO YOSHINOBU  
APPLICANT(s): ASAHI GLASS CO LTD [000004] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 07-134339 [JP 95134339]  
FILED: May 31, 1995 (19950531)

INTL CLASS: [6] G02B-027/02; G02B-005/32; G03H-001/22  
JAPIO CLASS: 29.2 (PRECISION INSTRUMENTS -- Optical Equipment)  
JAPIO KEYWORD:R009 (HOLOGRAPHY)

ABSTRACT

PURPOSE: To decrease chromatic aberration while improving the visibility of a displayed **virtual image** which maintain visibility not being overwhelmed by bright background.

CONSTITUTION: This head up display consists of hologram 1 which is disposed on the more inner side of a **vehicle** than a dark **color** shielding layer 3 disposed at the periphery edge of windshields 10 and a light source 16 which consists of a cold cathode tube or hot cathode tube disposed below the windshields 10. The light emitted from this light source 16 and transmitted through a display 4 is made incident on this hologram and is diffracted toward an observer's observation position 6. The observer observes the display **virtual image** 7.

11/5/11 (Item 4 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2001 JPO & JAPIO. All rts. reserv.

04959053 \*\*Image available\*\*  
DISPLAY DEVICE FOR VEHICLE

PUB. NO.: 07-251653 [JP 7251653 A]  
PUBLISHED: October 03, 1995 (19951003)  
INVENTOR(s): KAWANO TSUTOMU  
FUKANO JUNICHI  
APPLICANT(s): NISSAN MOTOR CO LTD [000399] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 06-042390 [JP 9442390]  
FILED: March 14, 1994 (19940314)  
INTL CLASS: [6] B60K-035/00; G02B-005/32; G02B-027/02  
JAPIO CLASS: 26.2 (TRANSPORTATION -- Motor Vehicles); 29.2 (PRECISION INSTRUMENTS -- Optical Equipment)  
JAPIO KEYWORD:R002 (LASERS); R009 (HOLOGRAPHY)

ABSTRACT

PURPOSE: To provide a display device for a vehicle whereby necessary display brightness can be easily attained by using a fluorescent display tube.

CONSTITUTION: Relating to a display device for a vehicle, display light from a **virtual image** light source 2 is turned back in a reflecting surface (meter cover 3) to obtain a distant **virtual image** display 5, and further an actual image display by a display pattern on the reflecting surface, irradiated by an actual image use light source 6 set up in the inside of the reflecting surface, is overlapped to make the display visible by providing a depth feeling. Accordingly, the display device for a **vehicle** is characterized by changing display **color** into white color, by arranging a hologram color filter 7 (reflecting or penetrating hologram), removing by diffraction a green region from a wavelength band of light emitted from a fluorescent character display tube which is the **virtual image** use light source 2, between the **virtual image** use light source 2 and the reflecting surface.

11/5/12 (Item 5 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2001 JPO & JAPIO. All rts. reserv.

04593912 \*\*Image available\*\*  
VEHICLE DISPLAY DEVICE

PUB. NO.: 06-265812 [JP 6265812 A]  
PUBLISHED: September 22, 1994 (19940922)  
INVENTOR(s): YABE SADA0

YAMATANI SHUICHI  
APPLICANT(s): NIPPON SEIKI CO LTD [352290] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 05-079182 [JP 9379182]  
FILED: March 12, 1993 (19930312)  
INTL CLASS: [5] G02B-027/02; B60K-035/00; G02B-027/28  
JAPIO CLASS: 29.2 (PRECISION INSTRUMENTS -- Optical Equipment); 26.2 (TRANSPORTATION -- Motor Vehicles)  
JAPIO KEYWORD: R011 (LIQUID CRYSTALS)  
JOURNAL: Section: P, Section No. 1845, Vol. 18, No. 670, Pg. 136, December 16, 1994 (19941216)

#### ABSTRACT

PURPOSE: To provide a **vehicle** display device in which **colors** of a display light are changed corresponding to color polarizing members by the control of an optical rotation member and **virtual images** having the same brightness are seen even when colors of the display light are changed since the deflection direction of the display light emitted from a display unit is always coincident with the vibration direction of an S polarization component determined by the positional relation between a driver and a reflection member.

CONSTITUTION: A display unit 10 is provided with a TN type LCD 4 having the design for a display use, a pair of polarization members 11, 12 holding the LCD 4 from back and forth sides. A pair of color polarization members 13, 14 whose axes of an absorption are orthogonally crossed and having different colors and a LCD (an optical rotation member) 15 capable of rotating a deflection direction by 90 degrees are arranged towards the advancing direction of a display light 6. The deflection direction of the display light 6 is set so as to be coincident with the vibration direction of the S polarization component by ray-tracing the vibration direction of the S polarization component determined by the positional relation between the driver and the reflection member to the display unit 10

11/5/13 (Item 6 from file: 347)  
DIALOG(R)File 347:JAPIO  
(c) 2001 JPO & JAPIO. All rts. reserv.

01494636 \*\*Image available\*\*  
DISPLAY DEVICE FOR VEHICLE

PUB. NO.: 59-206236 [JP 59206236 A]  
PUBLISHED: November 22, 1984 (19841122)  
INVENTOR(s): HORIE HISATERU  
MINAMI KAZUAKI  
INOUE YOZO  
APPLICANT(s): NIPPON DENSO CO LTD [000426] (A Japanese Company or Corporation), JP (Japan)  
APPL. NO.: 58-081395 [JP 8381395]  
FILED: May 10, 1983 (19830510)  
INTL CLASS: [3] B60Q-009/00; G09G-003/00; B60R-016/02  
JAPIO CLASS: 26.2 (TRANSPORTATION -- Motor Vehicles); 43.4 (ELECTRIC POWER -- Applications); 44.9 (COMMUNICATION -- Other)  
JAPIO KEYWORD: R131 (INFORMATION PROCESSING -- Microcomputers & Microprocessors)  
JOURNAL: Section: M, Section No. 369, Vol. 09, No. 77, Pg. 32, April 06, 1985 (19850406)

#### ABSTRACT

PURPOSE: To improve **visual** ascertainment of abnormal display, by a method wherein, through computing of a microcomputer, abnormality is displayed by means of a staged change in color tone called a change in the background color of a CRT display surface and a change in a **car** speed display **color**

CONSTITUTION: For example, when the temperature of cooling water is increased to an abnormal value, a microcomputer 70 decides abnormality by

- . means of a signal from a water temperature sensor 20, produces data which changes the background color of a display surface 91 of a CRT 90 from a grey color to a red color, and performs red display of the periphery thereof togetherwith **digital** green display of a car speed through a controller 80. In which case, a vehicle is brought to a stop, but if no level change occurs to a signal from a car speed sensor 10 through a shaping circuit 50, overheat and the necessity of engine stop are displayed by means of a synchronizing signal. In case a vehicle is left to run as it is, a car speed display is changed from a green color to, for example, a black color. This permits improvement of **visual** ascertainment of abnormal display.

15/5/1 (Item 1 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

012883676  
WPI Acc No: 2000-055509/200005  
XRAM Acc No: C00-014727  
XRPX Acc No: N00-043394

**Color filter useful in liquid crystal display panels, e.g. a personal computer display panel**

Patent Assignee: CANON KK (CANO )  
Inventor: HIROSE M; KASHIWAZAKI A; MIYAZAKI T; NAKAZAWA K; SHIROTA K  
Number of Countries: 027 Number of Patents: 003  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
EP 965874	A2	19991222	EP 99111660	A	19990616	200005 B
JP 2000009916	A	20000114	JP 98171404	A	19980618	200014
US 6238827	B1	20010529	US 99333041	A	19990615	200132

Priority Applications (No Type Date): JP 98171404 A 19980618

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 965874	A2	E	50	G02F-001/1335	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2000009916	A		38	G02B-005/20	
US 6238827	B1			G02B-005/20	

Abstract (Basic): EP 965874 A2

NOVELTY - A color filter comprising red, green and blue color elements is characterized by having a relationship between a tristimulus value (Y) of a white color formed by the color elements and an area (S) for a triangle formed by connecting the xy chromaticity in a standard C light source of the color elements, each based on an XYZ color system with a 2 visual field (JIS Z8701), meeting the relationship: Y at least  $-255 \times S + 54$ .

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for a liquid crystal display panel comprising the color filter disposed opposite to a panel substrate with a liquid crystal compound sealed between the filter and substrate, and for a **computer** comprising the liquid crystal display panel as an image display section.

USE - The filter is useful in liquid crystal display panels, especially for **computers** (claimed), **color** televisions, on-vehicle televisions and pinball machine game boards.

ADVANTAGE - The filter has high color density and superior transparency. Display panels containing the filter are capable of displaying high quality images in which black tones can be clearly **visualized** without increasing the luminance of the back light.

pp; 50 DwgNo 0/9

Title Terms: FILTER; USEFUL; LIQUID; CRYSTAL; DISPLAY; PANEL; PERSON;  
**COMPUTER** ; DISPLAY; PANEL

Derwent Class: A89; E21; E23; G02; L03; P81; U14

International Patent Class (Main): G02B-005/20; G02F-001/1335

International Patent Class (Additional): C09D-011/00; G02B-005/22

File Segment: CPI; EPI; EngPI

15/5/2 (Item 2 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

009205512 \*\*Image available\*\*  
WPI Acc No: 1992-332933/199241  
XRPX Acc No: N92-254092

**Contrast and colour testing of motor vehicle dashboard LCD display - rotating and pivoting display in-situ or measuring appts. for checking for various angles of viewing**



Patent Assignee: OPEL AG ADAM (OPEL )  
Inventor: RUEHR M; SCHERER B W; SCHERER B  
Number of Countries: 001 Number of Patents: 002  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4110075	A	19921001	DE 4110075	A	19910327	199241 B
DE 4110075	C2	19960502	DE 4110075	A	19910327	199622

Priority Applications (No Type Date): DE 4110075 A 19910327

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4110075	A		5	G01M-011/02	
DE 4110075	C2		6	G01M-011/02	

Abstract (Basic): DE 4110075 A

Setting of the various angles of observation can be by rotating and pivoting the display on a goniometer, the contrast or colour measuring appts. remaining fixed. The angular range measured can extend in a vertical direction w.r.t. the plane of the display over 60 deg., e.g. from + 30 deg. to - 30 deg. and over 180 deg. in a horizontal direction, e.g. from + 90 deg. to - 90 deg..

A single segment can be measured, e.g. a LCD segment (3) representing 5,700 r.p.m. of a revolution display (2). A figure of a tachometer display (7) or the complete field of a temp. display (9) can be measured. Under **computer** control a full testing process in carried out for the various angles of view. A segment for frequency-dependent display.

USE/ADVANTAGE - Ascetains effects of ambient light and lighting, covering discs, filters etc., on **displays** when **installed** in position on dashboard.

f

Dwg.1/2

Title Terms: CONTRAST; COLOUR; TEST; MOTOR; VEHICLE; DASHBOARD; LCD; DISPLAY; ROTATING; PIVOT; DISPLAY; SITU; MEASURE; APPARATUS; CHECK; VARIOUS; ANGLE; VIEW

Derwent Class: Q13; S02; S03; W05; X22

International Patent Class (Main): G01M-011/02

International Patent Class (Additional): B60K-035/00; G01J-001/00; G01J-003/00; G01J-003/46

File Segment: EPI; EngPI

15/5/3 (Item 3 from file: 350)  
DIALOG(R)File 350:Derwent WPIX  
(c) 2001 Derwent Info Ltd. All rts. reserv.

004409377

WPI Acc No: 1985-236255/198538

XRAM Acc No: C85-102584

XRPX Acc No: N85-176934

**Pre-viewer partic. for clothing or accessories - uses computer to mix and orientate images of subject and articles**

Patent Assignee: SPACKOVA D S (SPAC-I)

Inventor: CHEN R M; FSPACKOVA D S

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 4539585	A	19850903	US 81282055	A	19810710	198538 B

Priority Applications (No Type Date): US 81282055 A 19810710

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4539585	A		7		

Abstract (Basic): US 4539585 A

A **previewer** comprises a **computer** (20) to generate a graphic image of an article and a store (16) holding video images of a subject, with a system for selecting a specific frame of the images and subject

orientation for each frame. The **computer** accesses the storage and can re-image the article in accordance with the orientation ref. for the given frame, then displaying the composite image.

The orientation means comprise indicia providing x-y-z-axial orientation and angular rotation orientation w.r.t. the axes. The orientation ref. information is pref. input with joysticks (37) and the article image is altered using a keyboard (35).

USE - In partic. the subject is a person and the article spectacles, hats, hairstyles, wigs, make-up, cosmetic surgical changes, or clothing, and can also be used with furnishings and **automobile accessories**.

/5

Title Terms: PRE; VIEW; CLOTHING; ACCESSORY; **COMPUTER** ; MIX; ORIENT; IMAGE ; SUBJECT; ARTICLE

Derwent Class: F07; W02; X27

International Patent Class (Additional): H04N-007/18

File Segment: CPI; EPI

15/5/4 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

(c) 2001 JPO & JAPIO. All rts. reserv.

04500417 \*\*Image available\*\*

DELIVERY MANAGEMENT AUXILIARY DEVICE IN FINAL PROCESS OF VEHICLE PRODUCTION

PUB. NO.: 06-144317 [JP 6144317 A]

PUBLISHED: May 24, 1994 (19940524)

INVENTOR(s): KAGAWA TOSHIYUKI

AKIBA KENICHI

SAKAE SHOGO

TAMASHIMA HIROSHI

TAKANO HIROYUKI

INOUE MASAOKI

APPLICANT(s): NISSAN MOTOR CO LTD [000399] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 04-305612 [JP 92305612]

FILED: November 16, 1992 (19921116)

INTL CLASS: [5] B62D-065/00; B23Q-041/08

JAPIO CLASS: 26.2 (TRANSPORTATION -- Motor Vehicles); 25.2 (MACHINE TOOLS -- Cutting & Grinding)

JOURNAL: Section: M, Section No. 1663, Vol. 18, No. 459, Pg. 16, August 26, 1994 (19940826)

#### ABSTRACT

PURPOSE: To facilitate delivery management by **looking** at a whole delivery management **display** board, and grasping the number of total in-process vehicles and the progress condition of vehicles, which are near the delivery time, within a final process of vehicle production, and indicating them to a worker.

CONSTITUTION: A master device of an OK processing device 38 to be used as an identification number input means is arranged in an inlet of a tester line 2, and furthermore, terminal devices 20, with which the identification number can be input by manual operation, are arranged at plural positions, and the identification number is input to a process control **computer** 17 to be used as a delivery management display board control means. A whole display board 36a is arranged at a position easy to be seen from a control booth 9 inside of a work C zone 7, and displays the number of total in-process vehicles and the identification number, **car** type, **color** and destination of five **vehicles**, which are near the delivery time, in the final process. A display board 36a for each area is arranged at a position easy to be seen inside of work A zone 5 - work D zone 8, and displays the number of in-process vehicles and the identification number, **car** type, **color** and destination of five **vehicles**, which are near the delivery time.

File 348:EUROPEAN PATENTS 1978-2001/Aug W04

(c) 2001 European Patent Office

File 349:PCT Fulltext 1983-2001/UB=20010906, UT=20010830

(c) 2001 WIPO/MicroPat

Set	Items	Description
S1	297035	VEHICLE? OR AUTOMOBILE? OR AUTOMOTIVE OR (CAR OR CARS OR V- AN OR VANS OR SUV OR SUVS)/FW OR TRUCK? ?
S2	215316	ACCESSOR? OR OPTIONS OR OPTIONAL(3W)(EQUIPMENT OR FEATURE? ?) OR EQUIPMENT(2W)PACKAGE? ? OR COLOR?? OR COLOUR?
S3	517113	PREVIEW? OR VISUAL? OR TRY?(3W)OUT OR (DISPLAY? OR SHOW? OR DEPICT?)(3N)(APPEAR? OR INSTALL? OR LOOK??) OR SEE/FW OR SEE- ING
S4	50330	(SELECT? OR PICK? OR LIST? OR MENU? OR CHOOS? OR CHOSEN)(7- N)(MAKE? ? OR VEHICLE? OR PARTS OR WHEEL? ? OR ACCESSORIES OR MODEL??? OR STYLE)
S5	119706	BUY? OR SELL??? OR PURCHAS? OR SALE OR SALES OR SOLD OR BO- UGHT OR (SHOPPING OR VIRTUAL)(2W)(CART? ? OR KART? ?)
S6	212	S1(S)S2(5N)S3
S7	19	S6(S)S4
S8	14	S7 NOT (PIPELINE? OR SHEET()METAL OR PROTEIN? ? OR POLYPEP- TIDE? OR SERVICES()PATTERN? ?)/TI
S9	9	S8 NOT (PLATE? ? OR BLOCK? ? OR BOX?? OR PRODUCTION(1N)RUL- E? OR TRACKING)/TI
S10	29	S1(5N)S2(S)S3(S)S4
S11	20	S10 NOT S7
S12	20	S11 NOT (PROTEIN? ? OR POLYPEPTIDE? OR PIPELINE? OR METAL - OR SERVICES()PATTERN?)/TI
S13	10	S12 NOT (NAVIGAT? OR TRAVEL OR SPEED OR DISPATCH OR REMOTE- LY()CONTROLLING OR PRINTING OR DRYING OR GAME)/TI
S14	118	S1(5N)S2(S)S5
S15	24	S14(S)S4
S16	19	S15 NOT (S7 OR S10)
S17	11	S16(S)(INTERNET? OR ONLINE OR ON()LINE OR AUTOMATE? OR SOF- TWARE OR DATABASE? OR DATA()BASE? OR REALTIME OR REAL()TIME OR INTERACTIV? OR PRODIGY OR MINITEL OR WEB OR WEBSITE? OR WEBP- AGE? OR BULLETIN()BOARD? OR VIRTUAL? OR DIGITAL?)
S18	0	AU=(BERMAN CARY? AND BRANHAM REGINALD?)
S19	1	AU=(BERMAN CARY? OR BRANHAM REGINALD?)

9/3,K/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2001 European Patent Office. All rts. reserv.

00646550

**Interactive color harmonizing methods and systems.**  
**Interaktives Farbharmonisierungsverfahren und -system.**  
**Systeme et procede interactifs d'harmonisation de couleurs.**  
PATENT ASSIGNEE:

Hamlin, Jay F., (1784090), 1825 42nd Avenue, Capitola, CA 95010, (US),  
(applicant designated states: DE;FR;GB)  
Sandow, Scott, (1784100), 2516 Carlene Lane, Santa Cruz, CA 95062, (US),  
(applicant designated states: DE;FR;GB)  
Sandow, Robin, (1784110), 20164 Charest Street, Detroit, MI 48234, (US),  
(applicant designated states: DE;FR;GB)

INVENTOR:

Hamlin, Jay F., 1825 42nd Avenue, Capitola, CA 95010, (US)  
Sandow, Scott, 2516 Carlene Lane, Santa Cruz, CA 95062, (US)  
Sandow, Robin, 20164 Charest Street, Detroit, MI 48234, (US)

LEGAL REPRESENTATIVE:

Petri, Stellan (23987), Strom & Gulliksson AB Box 41 88, S-203 13 Malmo,  
(SE)

PATENT (CC, No, Kind, Date): EP 624850 A2 941117 (Basic)  
EP 624850 A3 950712

APPLICATION (CC, No, Date): EP 94201284 940509;

PRIORITY (CC, No, Date): US 59068 930510

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: G06F-015/72;

ABSTRACT WORD COUNT: 203

LANGUAGE (Publication,Procedural,Application): English; English; English  
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF2	883
SPEC A	(English)	EPABF2	3481
Total word count - document A			4364
Total word count - document B			0
Total word count - documents A + B			4364

...SPECIFICATION By this procedure then a standard color pattern such as that illustrated achromatically in Figures 3a and 3b is reproducible for reference in the Ostwald **style** to view, **select** and manipulate sets of colors in a distinctive organized display on a color computer screen. Thereby any one of the 24 hues corresponding closely to...

...and compared to the standard color wheel. The color wheel-triangle presentation style of Figures 3a and 3b thus provide a convenient vehicle for organizing **color** definition and manipulation with **visual** monitoring.

Other terminology is employed typically in Fig. 3a. Thus, identification of those hues present in any picture being processed is shown by reduced size...

9/3,K/2 (Item 1 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00802534

**ANY-TO-ANY COMPONENT COMPUTING SYSTEM**  
**SYSTEME INFORMATIQUE A COMPOSANTS TOUTE CATEGORIE**  
Patent Applicant/Assignee:

E-BRAIN SOLUTIONS LLC, 1200 Mountain Creek Road, Suite 440, Chattanooga, TN 37405, US, US (Residence), US (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

WARREN Peter, 1200 Mountain Creek Road, Suite 440, Chattanooga, TN 37405, US, GB (Residence), GB (Nationality), (Designated only for: US)

LOWE Steven, 1625 Starboard Drive, Hixson, TN 37343, US, US (Residence),  
US (Nationality), (Designated only for: US)

Legal Representative:

MEHRMAN Michael J (agent), Paper Mill Village, Building 23, 600 Village  
Trace, Suite 300, Marietta, GA 30067, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200135216 A2 20010517 (WO 0135216)

Application: WO 2000US31231 20001113 (PCT/WO US0031231)

Priority Application: US 99164884 19991112

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 291515

9/3,K/3 (Item 2 from file: 349)

DIALOG(R)File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00777967 \*\*Image available\*\*

COMPUTERIZED VISUALIZING OF VEHICLES WITH CUSTOM ACCESSORIES

VISUALISATION INFORMATISEE DE VEHICULES DOTES D'ACCESSOIRES PERSONNALISES

Patent Applicant/Assignee:

HIGH TECHNOLOGY SOLUTIONS INC, Suite 300, 9665 Chesapeake Drive, San  
Diego, CA 92123, US, US (Residence), US (Nationality), (For all  
designated states except: US)

Patent Applicant/Inventor:

DIVINE Jeff M, 7321 N.E. Par Lane, Vancouver, WA 98662, US, US  
(Residence), US (Nationality), (Designated only for: US)

McCLOUD Debra, 116 W. 23rd Street, Vancouver, WA 98662, US, US  
(Residence), US (Nationality), (Designated only for: US)

YOUNG Maria, 2614 N.E. 92nd Avenue, Vancouver, WA 98662, US, US  
(Residence), US (Nationality), (Designated only for: US)

GOETZ Nancy, 8935 S.W. Edgewood Street, Tigard, OR 97223, US, US  
(Residence), US (Nationality), (Designated only for: US)

MORAN Brian, 3535 S.E. Alder Street, Tigard, OR 97214, US, US (Residence)  
, US (Nationality), (Designated only for: US)

BOONE Jared, 2876 S.W. 153rd Drive, Beaverton, OR 97006, US, US  
(Residence), US (Nationality), (Designated only for: US)

Legal Representative:

BROOK Mitchell P (et al) (agent), Baker & McKenzie, Twelfth Floor, 101  
West Broadway, San Diego, CA 92101, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200111500 A1 20010215 (WO 0111500)

Application: WO 2000US21398 20000804 (PCT/WO US0021398)

Priority Application: US 99369483 19990805

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 6407

Fulltext Availability:

Detailed Description

#### English Abstract

A visualization system for enabling a user to **select** a **vehicle** and to overlay images of various user-**selected accessories** (50 and 52) onto an image of a vehicle to display an image of the desired combination includes a database (44) that stores digitized images...

...The database (44) correlates accessories and colors, with prices and other data to the vehicles. An user can access the database over the Internet to **select** a **vehicle** with user-defined **accessories**, and then a composite image of the vehicle with accessories is presented (54). Or, a salesperson in a dealership can access a local database of...

...on a monitor in the showroom, a composite photograph of a vehicle with a buyer-defined suite of accessories (54), such that the buyer can **visualize** the desired **vehicle /accessory** combination even if an actual **vehicle** with the accessory suite is not on the lot.

#### Detailed Description

... a plethora of other accessories that are sold at the dealership.

In any case, a car buyer potentially has dozens, perhaps hundreds, of combinations of **accessories** from which to **select**. Unfortunately, as recognized by the present invention only a few of these combinations are likely to be embodied in a single vehicle package at any...

...it would be desirable from both a buyer's viewpoint and a dealer's viewpoint to provide a means by which a buyer can quickly **visualize** many combinations of **accessories** for many models.

As still further recognized herein, such a large number of accessories are available, and ordinarily in many buyer- selectable colors, that simply...

...or more of the noted problems.

#### SUMMARY OF THE INVENTION

The invention is a general purpose computer programmed according to the inventive steps herein to **visualize** a **vehicle accessorized** per a user's **selection**. The invention can also be embodied as an article of manufacture - a machine component - that is used by a digital processing apparatus and which tangibly...

9/3,K/4 (Item 3 from file: 349)

DIALOG(R) File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00777012

#### A SYSTEM, METHOD AND ARTICLE OF MANUFACTURE FOR A JAVA BASED E-COMMERCE ARCHITECTURE

#### SYSTEME, PROCEDE ET ARTICLE MANUFACTURE DESTINES A UNE ARCHITECTURE DE COMMERCE ELECTRONIQUE BASEE SUR JAVA

Patent Applicant/Assignee:

AC PROPERTIES BV, Parkstraat 83, NL-2514 JG 's-Gravenhage, NL, NL  
(Residence), NL (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:

UNDERWOOD Roy A, 4436 Hearthmoor Court, Long Grove, IL 60047, US, US  
(Residence), US (Nationality), (Designated only for: US)

Legal Representative:

HICKMAN Paul L, Hickman Coleman & Hughes, LLP, P.O. Box 52037, Palo Alto, CA 94303, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200109721 A2 20010208 (WO 0109721)

Application: WO 2000US20561 20000728 (PCT/WO US0020561)

Priority Application: US 99364531 19990730

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ  
DE DK DM DZ EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK

LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK  
SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English  
Filing Language: English  
Fulltext Word Count: 133442

Fulltext Availability:  
Detailed Description

Detailed Description

... Membership Directory --groupname, where director and groupname is the name of the Membership group.

Membership Authentication Configuration Options Under Membership Authentication, there are also several **options** for configuration. There are four Security Support Providers available: 1) Automatic Cookie Authentication, 2) HTML Forins Authentication, 3) Distributed Password Authentication (DPA), and 4) Clear...

9/3,K/5 (Item 4 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00733536 \*\*Image available\*\*

**DISK BRAKE TESTING DEVICE AND SYSTEM EMPLOYING THE SAME**  
**DISPOSITIF D'ESSAI DE FREINS A DISQUE ET SYSTEME DANS LEQUEL IL EST UTILISE**  
Patent Applicant/Assignee:

PRO-CUT LICENSING LLC, Unit 4, 10 Technology Drive, West Lebanon, NH  
03784, US, US (Residence), US (Nationality)

Inventor(s):

GREENWALD Christopher L, 2 Wilson Avenue, Concord, NH 03301, US

Legal Representative:

WEINS Michael J, 31 Bank Street, Lebanon, NH 03766, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200046523 A1 20000810 (WO 0046523)

Application: WO 99US8553 19990419 (PCT/WO US9908553)

Priority Application: US 99243499 19990203

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES  
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU  
LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA  
UG UZ VN YU ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 15414

Fulltext Availability:  
Claims

Claim

... said user input interface has capacity for interacting with said visual display, the brake disk testing system further comprising:

means for generating menus on said **visual** display, said **menus** displaying **options** provided via said **vehicle** data input interface; and means for making **selections** of desired options from said menus via said user

9/3,K/6 (Item 5 from file: 349)

DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00682987      \*\*Image available\*\*

**AUTOMATED DEVICES TO CONTROL EQUIPMENT AND MACHINES WITH REMOTE CONTROL AND ACCOUNTABILITY WORLDWIDE**

**DISPOSITIFS AUTOMATIQUES DE COMMANDE A DISTANCE DE MACHINES ET MATERIELS DE COMMANDE, UTILISABLES MONDIALEMENT**

Patent Applicant/Assignee:

KLINE & WALKER LLC, KLINE & WALKER, LLC , 11201 Spur Wheel Lane, Potomac, MD 20854 , US

Inventor(s):

WALKER Richard C, WALKER, Richard, C. , 15000 Hunters Harbor Lane, Waldorf, MD 20601 , US

Patent and Priority Information (Country, Number, Date):

Patent: WO 9965681 A1 19991223

Application: WO 99US13668 19990618 (PCT/WO US9913668)

Priority Application: US 9889783 19980618; WO 99US919 19990115; US

99122108 19990226; US 99139759 19990615; US 99149029 19990617

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CZ DE DK EE ES

FI GB GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT LU LV MD

MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US

UZ VN YU ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM

AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM

GA GN GW ML MR NE SN TD TG

Publication Language: English

Filing Language: English

Fulltext Word Count: 84967

Fulltext Availability:

Detailed Description

Detailed Description

... RF equipment and telephony technology to send the control signals.

To continue the early development of these most sensitive law enforcement protocols this technology will **try** to seek **out** companies already doing responsible business, such as Lojack, who use special police radio frequencies in tracking stolen vehicles for law enforcement in a limited but...T.S. products or this technology will probability provide an inexpensive alternative to automate and/or remote control any such particular function.

These presently detailed **parts** were **chosen** for their universal supply line manufactures and commercial connections to most all the major automobile manufactures around the world. They were also chosen, because some...

...and/or physical structure and action is needed. Another important consideration for some of the GM configurations was their high torque capability.

These first GM **parts** are a 12 volt motor PN (**listed** in fig 6), which has a gear reduction right angle worm drive as part of its assembly. There is also varied length cable drives, PN...vehicle view where the camera is pointed to by comparing the distance sensors electrical signals showing the closest object and fastest moving object approaching the **vehicle**, which are optionally prioritized by a compare **list** in the application specific computer software for, e.g., auto altercations, etc. The computer then electrically operates by servo motors the camera to view this incident while recording the degree angle of impending contact. 0 angle being relative to the **vehicle** which will always be dead ahead or pointing to the front, perpendicular right 90 degrees, directly ... incident area under, investigation. Go to list I = unlawful incidents locator block of coordinates -- then check t = the software would compare the time factor the **vehicle** record triggered at. Go to **list** tip = tip would first check time to the time frame of the location flag and, then flag in sequence other known time and location coordinates...manufactures



for their ratchet devices, and/or, a generic or universal system which are product designs of this technology will be standardized by application specific **vehicle** type needs (e.g, minivans, regular sedans, **pickups** , etc.) and utilized to insure a vast amount of alternatives to deploy this safety enhancement and important automated and/or remote control device (slow, secure...

...used in the manner and for the purposes described herein to accomplish responsible automated and/or remote control to slow stop and/or secure a **vehicle** in a stationary position fall within the nature and scope of this invention and technology. 173 which in this case is a pedal rather than...rotational force which is supplied by a cable snapped into 156 in the manner described for Figure 5. 252 is the floor board of the **vehicle** . Once again, this is the modality **chosen** for the prototype for its readily available C.O.T.S. However, the placement of these systems for the pedal stop when configured for installation at the time of manufacture would be more securely combined and concealed as part of the **vehicle** structure as is understood by anyone skilled in the art. However, these are the parts and quick commercial adaptation into this present market place that these experimental systems use to slow, stop, and secure the standard **vehicles** on today's highways. This has been the primary focus. So these systems are detailed here to provide understanding, real feasibility technically and collaborative commercial ...has many different places, applications and other industrial uses. However, the quick disconnects on the shutoff adapters for the diagnosing of fuel problems on this **vehicle** were **chosen** as the best deployment for the prototypes of this valve system on these **vehicles** . The automated shutoff valve system of the invention can be configured to perform these tests and if desired and report back data from the electronic...

9/3,K/7 (Item 6 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00623730 \*\*Image available\*\*

**CENTRALIZED CONTROL AND MANAGEMENT SYSTEM FOR AUTOMOBILES**  
**SYSTEME CENTRALISE DE COMMANDE ET DE GESTION POUR AUTOMOBILES**

Patent Applicant/Assignee:

CALCAR ADVERTISING INC, CALCAR ADVERTISING, INC. , Suite 139, 122 S. El Camino Real, San Clemente, CA 92672 , US

Inventor(s):

OBRADOVICH Michael L, OBRADOVICH, Michael, L. , 1904 Aveneda Salvador, San Clemente, CA 92672 , US

Patent and Priority Information (Country, Number, Date):

Patent: WO 9906987 A2 19990211

Application: WO 98US15416 19980724 (PCT/WO US9815416)

Priority Application: US 97904855 19970801

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

Publication Language: English

Filing Language: English

Fulltext Word Count: 16958

Fulltext Availability:

Detailed Description

Detailed Description

... subject.

Depression of SET-UP key 215e allows the user to set parameters in system 100, which affect the functions of master control interface 117, **selected** aspects of the **vehicle** , priority of **menu** **selections** ,

access by other users to the hardware and software of the vehicle, etc. To facilitate setting of new parameters, after key 215e is depressed, operation control subsystem 136 causes display 205 to **show** thereon information about **installed** features, **accessories**, **options**, original equipment, dealer installed equipment, after market installations/removals, etc. In addition, information about the **vehicle**'s capabilities, safety features, legal requirements, equipment installers, repair facilities, maintenance records, software revisions and updates, etc., which is stored in subsystem 136, may be...

9/3,K/8 (Item 7 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00542110 \*\*Image available\*\*

**APPARATUS AND METHOD FOR GENERATING A SHEET&shy;METAL BEND MODEL**  
**APPAREIL ET PROCEDE DE PRODUCTION D'UN MODELE DE CINTRAGE DE TOLE**

Patent Applicant/Assignee:

AMADA METRECS CO LTD, AMADA METRECS CO., LTD. , 806, Takamori,  
Isehara&shy;shi, Kanagawa 259&shy;11 , JP  
AMADASOFT AMERICA INC, AMADASOFT AMERICA, INC. , 1492 Northan Street, La  
Mirada, CA 90638 , US

Inventor(s):

SAKAI Satoshi, SAKAI, Satoshi , 9 Avignon, Newport Coast, CA 92657 , US  
Patent and Priority Information (Country, Number, Date):

Patent: WO 9742608 A1 19971113

Application: WO 97US7474 19970506 (PCT/WO US9707474)

Priority Application: US 9616958 19960506; US 96688860 19960731

Designated States: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Publication Language: English

Filing Language: English

Fulltext Word Count: 146266

Fulltext Availability:

Detailed Description

Detailed Description

... that shown in Fig. 6C, may be provided to represent either part.

This topology may be stored in and provided with the part or bend **model** data. The simple face topology of Fig. 6C, however, only provides basic information regarding the relationship of the faces (1 -5) of the part and...that indicated in Fig. 6D, may be developed to indicate the touched comer status of the respective faces. Similarly, by examining the part or bend **model** data of the open, four bend box of Fig. 6D, a modified face topology, such as that shown in Fig. 6E, may be developed to...topology data for the part based on the various characteristics and relationships associated with each of the features to be extracted. By analyzing the bend **model** and topology data for the existence of the characteristics and relationships for each feature to be analyzed, the presence of features (such as a touched...

...detected; however, instead of the faces having bendlines that are in the same direction, the faces should have bendlines that are in the opposite direction (**see** , e.g., Table 1). The open comer features OpenCnr and openCnr may be similarly detected, however, for each feature the presence of an ...provided therein for OpenCnr and openCnr) should be analyzed. To detect the touch comer feature (e.g., the TouchCnr feature in Table 1), the bend **model** and topology data for any two faces may first be analyzed to determine if the two faces are attached to a common face. This may...

...of the faces.

If it is determined that the two faces have a common face and have the same bendline direction based on the bend **model** and topology data, then the data may be checked to detect if the bendlines are parallel. Various

methods may be used to detect whether the...potential collisions or interference, bending operators have traditionally relied upon manual methods to analyze the clearance between the profile of a tool and the bent **parts** or shapes of the sheet metal component. Typically, a model of the tool profile is constructed and used by a bending operator. The tool profile...to assist a shop or factory foreman in establishing job schedules for the factory. The system may take advantage of communications network 26 and the bend **model** information that is stored in database 30 to automatically gather the necessary information so that the shop foreman may more easily develop a job schedule...

9/3,K/9 (Item 8 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00294634

**LAND VEHICLE NAVIGATION APPARATUS WITH VISUAL DISPLAY**  
**APPAREIL DE NAVIGATION POUR VEHICULES TERRESTRES DOTE D'UN ECRAN DE VISUALISATION**

Patent Applicant/Assignee:

MOTOROLA INC

Inventor(s):

LEFEBVRE Rebecca

Patent and Priority Information (Country, Number, Date):

Patent: WO 9204683 A1 19920319

Application: WO 91US5968 19910821 (PCT/WO US9105968)

Priority Application: US 90581495 19900912

Designated States: JP

Publication Language: English

Fulltext Word Count: 7712

Fulltext Availability:

Detailed Description

Claims

English Abstract

Land **vehicle** navigation apparatus (10) with a visual display (16, 20) is provided. The apparatus provides a visual display of a calculated navigation route (22) with a...

...An off route map display portion (28) is provided which has the visual navigation route display (22) in one color and, in a second contrasting **color**, a **visual** display (24, 26) of actual **vehicle** travel. A separate additional feature is that an off route display (20) provides a visual display portion (29) of a plurality of operator selectable off route recovery options (1-6). Off route recovery means (12, 49-63) are provided such that the **vehicle** operator can implement the **visually** displayed recovery **options**. The result is a navigation system which visually provides **vehicle** navigation information to the **vehicle** operator in an improved minimal comprehension time format, and allows the **vehicle** operator to **select** for himself how to recover from an off route condition.

Detailed Description

... time format.

Another feature of the visual display 20 provided by the block 43 is that display portion 29 visually indicates a table of operator **selectable** off route recovery options. Thus the **vehicle** driver now is **visually** made aware of several recovery **options** which 1.5 are available, and he can now select the recovery option which best suits his needs. These options will be discussed subsequently in...feature is needed.

Essentially, the blocks 47 through 49 determine if 215 vehicle position and direction match the previously calculated navigation route and if the **vehicle** operator has **selected** one of the **visually** displayed recovery **options** available to him. If no recovery option is **selected**,

the **vehicle** operator can implement his own recovery by guiding the **vehicle** back to the calculated navigation route since he is now aware of not only his current position and travel direction by virtue of the red ...

Claim

... of said off route condition and also visually indicating a plurality of possible operator selectable off route recovery options, and recovery means for providing the **vehicle** operator with a plurality of operator **selectable** off route recovery options in response to detecting said off route condition, each of said operator selectable 211 recovery options corresponding to an associated one of said plurality of **visually** displayed **options** .

14. Land vehicle navigation apparatus according to claim 13 wherein said off route display means provides a plurality of visual wording legends each indicative of...

13/3,K/1 (Item 1 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2001 European Patent Office. All rts. reserv.

00464079

**Colorant compositions**  
**Farbzusammensetzungen**  
**Compositions colorantes**

**PATENT ASSIGNEE:**

UNION CARBIDE CHEMICALS AND PLASTICS COMPANY, INC., (1128641), 39 Old  
Ridgebury Road, Danbury Connecticut 06817-0001, (US), (applicant  
designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)

**INVENTOR:**

Busby, Molly I-Chin, 130 Whispering Woods Road, Charleston, West Virginia  
25304, (US)

Olson, Kurt Damar, 5442 Longview Drive, Cross Lanes, West Virginia 25313,  
(US)

**LEGAL REPRESENTATIVE:**

von Hellfeld, Axel, Dr. Dipl.-Phys. et al (53042), Wuesthoff & Wuesthoff  
Patent- und Rechtsanwälte Schweigerstrasse 2, D-81541 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 462557 A2 911227 (Basic)  
EP 462557 A3 921209  
EP 462557 B1 960117

APPLICATION (CC, No, Date): EP 91109944 910618;

PRIORITY (CC, No, Date): US 540208 900619

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE

INTERNATIONAL PATENT CLASS: C09D-017/00;

ABSTRACT WORD COUNT: 169

LANGUAGE (Publication,Procedural,Application): English; English; English

**FULLTEXT AVAILABILITY:**

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1033
CLAIMS B	(English)	EPAB96	732
CLAIMS B	(German)	EPAB96	624
CLAIMS B	(French)	EPAB96	779
SPEC A	(English)	EPABF1	3409
SPEC B	(English)	EPAB96	3397
Total word count - document A			4442
Total word count - document B			5532
Total word count - documents A + B			9974

...SPECIFICATION ethylene glycol and/or diethylene glycol.

The present invention pertains to the use of a colorant composition  
comprised of a pigment dispersed in a liquid **vehicle** to impart a  
**color** to a coating composition wherein at least a portion of said  
liquid **vehicle** is a nitrogen-containing component **selected** from the  
group consisting of compounds having a formula (**see** image in original  
document) and mixtures thereof, wherein each R is independently selected  
from H, monovalent hydrocarbyl radicals having 1 to 4 carbon atoms,  
divalent...

...CLAIMS B1

1. Use of a colorant composition comprised of a pigment dispersed in a  
liquid **vehicle** to impart a **color** to a coating composition  
wherein at least a portion of said liquid **vehicle** is a  
nitrogen-containing component **selected** from the group consisting  
of compounds having a formula (**see** image in original document)  
and mixtures thereof, wherein each R is independently selected from  
H, monovalent hydrocarbyl radicals having 1 to 4 carbon atoms,  
divalent...

13/3,K/2 (Item 2 from file: 348)  
DIALOG(R)File 348:EUROPEAN PATENTS  
(c) 2001 European Patent Office. All rts. reserv.

00285279

Holographic display system.

Holographisches Sichtanzeigesystem.

Systeme de visualisation holographique.

PATENT ASSIGNEE:

NIPPONDENSO CO., LTD., (211499), 1-1, Showa-cho, Kariya-shi Aichi-ken,  
(JP), (applicant designated states: DE;FR;GB;IT)

INVENTOR:

Nanba, Sinzi, Doeru Houdo 301, 2-6 Hajodonaka-machi 1-chome, Kariya-shi  
Aichi-ken, (JP)

Mizuno, Toru, 35-3, Aza Rendai, Oaza Ishihama, Higashiura-cho Chita-gun  
Aichi-ken, (JP)

Koike, Satoshi, Meiwa-ryo, 6-30, Tenno-cho, Kariya-shi Aichi-ken, (JP)

Goto, Tukasa, Panahaitsu Koromoura 103 5-29, Tenno-cho, Kariya-shi  
Aichi-ken, (JP)

LEGAL REPRESENTATIVE:

KUHNEN, WACKER & PARTNER (100051), Alois-Steinecker-Strasse 22, D-85354  
Freising, (DE)

PATENT (CC, No, Kind, Date): EP 278395 A2 880817 (Basic)

EP 278395 A3 900912

EP 278395 B1 931229

APPLICATION (CC, No, Date): EP 88101602 880204;

PRIORITY (CC, No, Date): JP 8726970 870206

DESIGNATED STATES: DE; FR; GB; IT

INTERNATIONAL PATENT CLASS: G02B-027/00;

ABSTRACT WORD COUNT: 196

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
----------------	----------	--------	------------

CLAIMS B	(English)	EPBBF1	627
----------	-----------	--------	-----

CLAIMS B	(German)	EPBBF1	505
----------	----------	--------	-----

CLAIMS B	(French)	EPBBF1	556
----------	----------	--------	-----

SPEC B	(English)	EPBBF1	5832
--------	-----------	--------	------

Total word count - document A	0
-------------------------------	---

Total word count - document B	7520
-------------------------------	------

Total word count - documents A + B	7520
------------------------------------	------

...SPECIFICATION this case, the CRT 151 uses light of the green-based color. Accordingly, in this case, the related information is indicated by the head-up **display** system 150.

When the **vehicle** driver actuates the **information selection switch** 145 and **selects** the **vehicle** speed as information to be indicated by the head-up display system 150, the control circuit 148 outputs a head-up signal of the vehicle...

...so that the wavelength of the light indicative of the vehicle speed emitted by the CRT 151 changes into the predetermined wavelength range or the **color** of the light indicative of the vehicle speed changes to green, and thus the vehicle speed is indicated by the head-up display system. The wavelength of...

...of other information emitted by the CRT 151 remains outside the predetermined range, so that the other information is not indicated by the head-up **display** system 151 **but** the vehicle driver can look at the other information on the CRT 151 through the hologram 152. The light indicative of the vehicle speed is...

...image of the indication of the vehicle speed in the driver's field of front view. Since the diffraction efficiency of the hologram 152 is **chosen** to be about 50%, part of the light indicative of the vehicle speed passes through the hologram 152 so that the vehicle driver can also directly look at the indication of the...

...of other information emitted by the CRT 151 remains outside the predetermined range, so that the other information is not indicated by the head-up **display** system 151 **but** the vehicle driver can directly look at the other information on the CRT 151. The light indicative of the

selected information is diffractively reflected by the...

13/3,K/3 (Item 3 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2001 European Patent Office. All rts. reserv.

00256414

Indication element with protective layer and process for producing the same.

Zeichenelement mit Schutzschicht und Verfahren fur dessen Herstellung.

Element d'indication avec couche protectrice et procede pour sa fabrication.

PATENT ASSIGNEE:

FUJICOPIAN CO., LTD., (521501), 8-43, Utajima 4-chome Nishiyodogawa-ku,  
Osaka-shi Osaka 555, (JP), (applicant designated states: DE;FR;GB)  
Ohki, Sadayuki, (881790), 5-8, Suehiro, Suwa-shi Nagano-ken, (JP),  
(applicant designated states: DE;FR;GB)

INVENTOR:

Ohki, Sadajuki, 5-8, Suehiro, Suwa-shi Nagano-ken, (JP)

LEGAL REPRESENTATIVE:

Turk, Gille, Hrabal, Leifert (100971), Brucknerstrasse 20, W-4000  
Dusseldorf 13, (DE)

PATENT (CC, No, Kind, Date): EP 253338 A2 880120 (Basic)  
EP 253338 A3 890830  
EP 253338 B1 930407

APPLICATION (CC, No, Date): EP 87110033 870711;

PRIORITY (CC, No, Date): JP 86108370 860714; JP 8727041 870206; JP 8729060  
870210

DESIGNATED STATES: DE; FR; GB

INTERNATIONAL PATENT CLASS: B41M-005/38;

ABSTRACT WORD COUNT: 151

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	884
CLAIMS B	(German)	EPBBF1	824
CLAIMS B	(French)	EPBBF1	1025
SPEC B	(English)	EPBBF1	4195
Total word count - document A			0
Total word count - document B			6928
Total word count - documents A + B			6928

...SPECIFICATION kind of resin of the receiving medium may be used singly or as admixtures of two or more kinds thereof. An incompatible resin may be **used** in combination with the **above** compatible resin component as a **vehicle** component with limits not to injure the purpose of the present invention. (see image in original document) (see image in original document) (see image in original document)

One or more other vehicle components including a variety of waxes or thermoplastic resins, and a viscosity-adjusting agent such as...

13/3,K/4 (Item 4 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2001 European Patent Office. All rts. reserv.

00201432

Control apparatus for a power assist steering system.

Steuervorrichtung fur eine Servolenkung.

Dispositif de commande pour une direction assistee.

PATENT ASSIGNEE:

TRW INC., (208105), 1900 Richmond Road, Lyndhurst Ohio 44124, (US),  
(applicant designated states: DE;FR;GB;IT)

INVENTOR:

Cage, Jerry L., 50700 Canyon Lane, Granger Indiana 46530, (US)  
Kulp, Jonathan B., 240 Schilling Street, West Lafayette Indiana 47906,

(US)

LEGAL REPRESENTATIVE:

Degwert, Hartmut, Dipl.-Phys. et al (38534), Patent Attorneys Prinz,  
Leiser, Bunke & Partner Manzingerweg 7, W-8000 Munchen 60, (DE)

PATENT (CC, No, Kind, Date): EP 203383 A2 861203 (Basic)  
EP 203383 A3 870513  
EP 203383 B1 910529

APPLICATION (CC, No, Date): EP 86105727 860425;

PRIORITY (CC, No, Date): US 738601 850528

DESIGNATED STATES: DE; FR; GB; IT

INTERNATIONAL PATENT CLASS: B62D-005/06; B62D-006/02;

ABSTRACT WORD COUNT: 124

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	754
CLAIMS B	(German)	EPBBF1	679
CLAIMS B	(French)	EPBBF1	859
SPEC B	(English)	EPBBF1	4726
Total word count - document A			0
Total word count - document B			7018
Total word count - documents A + B			7018

...SPECIFICATION selector switch to change from the above-described settable, automatic power assist control mode to a manually selected fixed, power assist mode. In the manually **selected** fixed, power assist mode, the microprocessor **maintains** the power assist at a constant value independent of the vehicle speed, the power assist being settable by the vehicle operator.

A **visual** display can be provided to indicate in both the settable, automatic mode and the manually selected, fixed control mode the power assist available to assist...the specific memory location addressed.

It is also possible for the microprocessor to perform an algorithm and calculate a pintle position based upon the determined **vehicle** speed and the setting **of** the selector switch 90 and to then control the pintle position in accordance with the calculated position.

Referring to Fig. 5, several steering assist control...

...20 mph. At 20 mph, the flow rate for all four settings of the selector switch 90 begins to decrease and stop decreasing when the **vehicle** speed reaches **55** mph. The final flow rate when the vehicle is above 55 mph is held constant at an amount depending on which of the four settings...

...option possibilities to vary the flow rate responsive to (i) the vehicle speed and (ii) the setting of the selector switch 90. Other possible control **options** could have a different maximum flow rate when the vehicle speed is less than a first value. Still other control options could have the same...

...the pintle an amount necessary to have an equal flow rate change between all selectable flow rates.

Referring to Fig. 6, a flow chart is **depicted showing** the operation of a control apparatus in accordance with the present invention. The starting of the program in step 150 occurs when the ignition switch...

13/3,K/5 (Item 1 from file: 349)

DIALOG(R)File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00764915

IMAGE MAKING MEDIUM

SUPPORT DE FORMATION D'IMAGE

Patent Applicant/Inventor:

HYMAN Sydney, 51 Greene Street, #3, New York, NY 10013, US, US

(Residence), US (Nationality)

Legal Representative:



WEILD David III, Pennie & Edmonds LLP, 1155 Avenue of the Americas, New  
York, NY 10036, US  
Patent and Priority Information (Country, Number, Date):  
Patent: WO 200077085 A1 20001221 (WO 0077085)  
Application: WO 2000US16111 20000612 (PCT/WO US0016111)  
Priority Application: US 99138694 19990611  
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE  
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC  
LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK  
SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM  
Publication Language: English  
Filing Language: English  
Fulltext Word Count: 207825

Fulltext Availability:  
Detailed Description

Detailed Description  
... manner desired.

In another embodiment, inventive images or part thereof are made using  
polymer that can be penetrated by an oil soluble dye in a **vehicle** ,  
e.g., in an appropriate solvent or in a mixture containing an appropriate  
solvent. In some polymers, such a dye may not only mark the...desired. As  
an illustration, an inventive image might have a unique imprimatura made  
using the present invention such as a polymer imprimatura, with  
transparent or **see** -through coloration measuring between 0. 1 inch and 6  
inches thick. Such an imprimatura might have one or more dispersed and/or  
dissolved dyes and...

**13/3,K/6 (Item 2 from file: 349)**  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00761422

**BUSINESS ALLIANCE IDENTIFICATION**

**SYSTEME, PROCEDE ET ARTICLE DE PRODUCTION POUR L'IDENTIFICATION D'ALLIANCES  
COMMERCIALES DANS UN CADRE D'ARCHITECTURE RESEAU**

Patent Applicant/Assignee:

ACCENTURE LLP, 100 South Wacker Drive, Chicago, IL 60606, US, US  
(Residence), US (Nationality)

Inventor(s):

GUHEEN Michael F, 2218 Mar East Street, Tiburon, CA 94920, US,  
MITCHELL James D, 3004 Alma, Manhattan Beach, CA 90266, US,  
BARRESE James J, 757 Pine Avenue, San Jose, CA 95125, US,

Legal Representative:

BRUESS Steven C (agent), Merchant, Gould, Smith, Edell, Welter & Schmidt,  
P.A., P.O. Box 2903, Minneapolis, MN 55402-0903, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200073928 A2-A3 20001207 (WO 0073928)  
Application: WO 2000US14375 20000524 (PCT/WO US0014375)  
Priority Application: US 99320816 19990527

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE  
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC  
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI  
SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English  
Filing Language: English  
Fulltext Word Count: 143341

Fulltext Availability:  
Detailed Description

Detailed Description  
... in the target system.

Dialog flow (navigation) editors enable the developer to graphically depict the flow of the windows or screens.

The Control-Action-Response (CAR) diagram is a commonly used technique for specifying the design of GUI windows. It is typically developed using a matrix or spreadsheet tool such as...support is a requirement. Are separate windows painted for each language or are window literals dynamically replaced? The former will produce windows that are more **visually** appealing but requires more significant effort to create and maintain.

The presentation design tools should facilitate documentation of these differences for design purposes and allow...such as general ledger, sales order processing, inventory management or product distribution. For example, IBM San Francisco offers business components for the Java environment (see Error! Bookmark not defined.) Product Considerations  
a) Does the component require significant customization? When selecting components, it is important to get as close a match...

13/3,K/7 (Item 3 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00736209 \*\*Image available\*\*

**PRODUCT CONFIGURATION DISPLAY SYSTEM AND METHOD**  
**SYSTEME ET PROCEDE D'AFFICHAGE DE CONFIGURATIONS DE PRODUITS**

Patent Applicant/Assignee:

AUTOBYTEL COM INC, 2nd Floor, 18872 MacArthur Boulevard, Irvine, CA 92612  
, US, US (Residence), US (Nationality)

Inventor(s):

ELLIS Peter R, 2715 Lighthouse Lane, Corona Del Mar, CA 92625, US  
NOTTAGE Douglas Sanford, 146 Pergola, Irvine, CA 92612, US  
BROMBY Dylan, 45 Rue Monet, Foothill Ranch, CA 92610, US

Legal Representative:

ALTMAN Daniel E, Knobbe, Martens, Olson & Bear, LLP, Sixteenth Floor, 620  
Newport Center Drive, Newport Beach, CA 92660-8016, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200049544 A2 20000824 (WO 0049544)  
Application: WO 2000US3828 20000215 (PCT/WO US0003828)  
Priority Application: US 99251218 19990216

Designated States: AE AL AM AT

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 16348

Fulltext Availability:  
Detailed Description

Detailed Description

... a streaming video presentation on the buyer terminal. The video presentation may advantageously include a person showing and describing the features and benefits of the **selected vehicle** as well as the aftermarket **options** available for the **vehicle**. In yet another embodiment, a three-dimensional model of a salesperson may **appear** in the product **display** area 302. The three dimensional model of the salesperson may be moving about the vehicle detailing and describing the

benefits of the displayed vehicle and...buyer may advantageously request to view the vehicle configured according to the buyer's desires. In one embodiment, the configuration panel 304 advantageously displays a list of **selectable** exterior **options** for the displayed **vehicle** (Figure 8). As an example, the **selectable** exterior options may be anti-lock brakes, bike rack, roof rack, grille guard, hood protector, alloy wheels, automatic transmission, four wheel drive, and tire mount...

...grille guard option in the configuration panel 304 as illustrated in Figure 9. The product display module displays a Toyota 4Runner with the grille guard **installed** in the product **display** area 302. In one embodiment, the grille guard instantly appears on the Toyota 4Runner displayed in the product display area 302. In another embodiment, the...

13/3,K/8 (Item 4 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00722050 \*\*Image available\*\*

**TRANSPONDER COMMUNICATIONS SYSTEM**  
**SYSTEME DE COMMUNICATION PAR REPONDEUR**

Patent Applicant/Assignee:

SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B V, Carel van Bylandtlaan 30,  
NL-2596 HR The Hague, NL, NL (Residence), NL (Nationality), (For all  
designated states except: US)

Patent Applicant/Inventor:

EDMONDSON Jon Bert, 2 York Road, Waterloo, London, Greater London SE1 7NA  
, GB, GB (Residence), US (Nationality), (Designated only for: US)

Patent and Priority Information (Country, Number, Date):

Patent: WO 200034931 A1 20000615 (WO 0034931)

Application: WO 99EP9794 19991208 (PCT/WO EP9909794)

Priority Application: EP 98310082 19981209

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK  
DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR  
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ  
TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 3519

Fulltext Availability:  
Detailed Description

Detailed Description

... could be done in addition to or instead of the audio message output described above.

Another development is to provide some interactivity from within the **vehicle** ; for example by **selection** of **options** presented to the occupant. People are used to exercising options via key-pad operated devices. Figure 2C shows a modification in which the processing microprocessor 32 provides an output to the user via an output device generally indicated as 44 (this may be audio and/or **visual** ) and there is provided an input port or inter face 46 within processing section 30 which is connected to the processing microprocessor 32 and by...

13/3,K/9 (Item 5 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00630190 \*\*Image available\*\*

**A METHOD OF ENABLING INVALID CHOICES IN INTERACTIVE CONFIGURATION SYSTEMS**

PROCEDE SERVANT A VALIDER DES CHOIX INVALIDES DANS DES SYSTEMES DE CONFIGURATION INTERACTIVE

Patent Applicant/Assignee:

BAAN FRONT OFFICE SYSTEMS AS, BAAN FRONT OFFICE SYSTEMS A/S , Horkaer 12 A, DK-2730 Herlev , DK

Inventor(s):

SKOVGAARD Hans Jorgen, SKOVGAARD, Hans, Jorgen , Stavnsholtvej 182, DK-3520 Farum , DK

Patent and Priority Information (Country, Number, Date):

Patent: WO 9913411 A2 19990318

Application: WO 98DK385 19980909 (PCT/WO DK9800385)

Priority Application: DK 971030 19970909

Designated States: AL AM AT AT AU AZ BA BB BG BR BY CA CH CN CU CZ CZ DE DE

DK DK EE EE ES FI FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK

LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SK SL

TJ TM TR TT UA UG US UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG

KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF

BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

Publication Language: English

Filing Language: English

Fulltext Word Count: 7352

Fulltext Availability:

Detailed Description

Detailed Description

... insist on a choice which is important to him. E.g. if the customer has made many decisions as to the look of his new **car** and the **accessories** wanted by him, and it suddenly turns out that with the present configuration instance it is not possible to **choose** exactly such **wheel** rims which he really wants, he will be disappointed. The invention makes it possible very quickly to **see** which previously made choices must be undone to obtain a valid configuration instance comprising exactly the wheel rims wanted.

The invention comprises not only undoing...

13/3,K/10 (Item 6 from file: 349)

DIALOG(R)File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00400885

ASPECT AND STYLE ELEMENTS OF AN IMPROVED GRAPHICAL USER INTERFACE

ELEMENTS D'ASPECT ET DE STYLE D'UNE INTERFACE GRAPHIQUE AMELIOREE

Patent Applicant/Assignee:

APPLE COMPUTER INC

Inventor(s):

JONES Jeremy A

MAYLE Neil L

PARSONS Paige K

SHALIT Andrew L

CLAIR William W St Jr

STEELE Oliver W

STRASSMANN Steven H

WHITE Derek R

Patent and Priority Information (Country, Number, Date):

Patent: WO 9532468 A1 19951130

Application: WO 95US5914 19950510 (PCT/WO US9505914)

Priority Application: US 94246319 19940519

Designated States: AM AU BB BG BR BY CA CN CZ EE FI GE HU JP KG KP KR KZ LK

LR LT LV MD MG NO NZ PL RO RU SI SK TJ TT UA UZ VN KE MW SD SZ UG AT BE

CH DE DK ES FR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN

TD TG

Publication Language: English

Fulltext Word Count: 8123

Fulltext Availability:

## Detailed Description

### Detailed Description

... such as sound, graphics, text and video, while the types of objects may include specific instances of these media or data types. For example, upon **selecting** a particular object, such as a **vehicle**, the user may wish to **see** a picture of a particular model of that **vehicle**, the **options** available for that model and a description of a particular available option. The user interface elements described herein allow the user to view any or...

17/3,K/1 (Item 1 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00826492 \*\*Image available\*\*

**IMPROVEMENTS RELATING TO TELEVISION SYSTEMS**  
**AMELIORATIONS RELATIVES A DES SYSTEMES DE TELEVISION**

Patent Applicant/Inventor:

DELAMONT Dean, 14 Queens Court, East Cowes, Isle of Wight PO32 6QX, GB,  
GB (Residence), GB (Nationality)

Legal Representative:

KEARNEY Kevin David Nicholas (et al) (agent), Kilburn & Strode, 20 Red  
Lion Street, London WC1R 4PJ, GB,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200160070 A1 20010816 (WO 0160070)

Application: WO 2001GB577 20010212 (PCT/WO GB0100577)

Priority Application: GB 20003199 20000211; GB 200011175 20000509; GB  
200021532 20000901

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 30869

Fulltext Availability:

Detailed Description

Detailed Description

... Products that the user wants to purchase can be filtered specifically by their attributes such as colour, price, size, style for clothing items and year, **colour** and **model** for **cars**. The filters are **selected** by the user from the **web** site. For example, if the user is looking specifically for a purple top and blue jeans but does not know which retailer stocks these clothes, then details on the products can be entered into the **web** -site. Once the relevant filters are selected, the search engine looks in the relevant access **databases** for suitable products. If the search engine successfully finds a product meeting the user's requirements then the user is presented with information on the...

...matches. Included in this information is data for constructing an image of the product. The product image is then displayed on the screen of the **digital** TV or a PC system.

In order to construct the product images, Mpeg formatted video or photography techniques are used. This is done using real...

17/3,K/2 (Item 2 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00819429

**AUTOMOTIVE SALES METHOD AND SYSTEM**  
**PROCEDE ET SYSTEME POUR LA VENTE D'AUTOMOBILES**

Patent Applicant/Assignee:

AUTOBYTEL COM INC, 18872 MacArthur Boulevard, 2nd Floor, Irvine, CA 92162  
, US, US (Residence), US (Nationality)

Inventor(s):

BONNANI Marc, 748 South Prospect Street, Orange, CA 92869, US,

LIND Stephen Douglas, 829 Cypress Street, Hermosa Beach, CA 90254, US,

LUCZO Charles William, 29162 Alfieri Street, Laguna Niguel, CA 92677, US,

NELSON Timothy Edward, 16266 Ivory Court, Chino Hills, CA 91709, US,  
Legal Representative:

ALTMAN Daniel E (agent), Knobbe, Martens, Olson and Bear, LLP, 620

Newport Center Drive, 16th Floor, Newport Beach, CA 92660, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200152154 A2 20010719 (WO 0152154)

Application: WO 2001US1154 20010110 (PCT/WO US0101154)

Priority Application: US 2000484118 20000114

Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY  
BZ CA CH CN CR CU CZ CZ (utility model) DE DE (utility model) DK DK  
(utility model) DM DZ EE EE (utility model) ES FI FI (utility model) GB  
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA  
MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SK (utility model)  
SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 7563

Fulltext Availability:

Detailed Description

Detailed Description

... are comparable to the selected model which the purchaser may be  
interested in considering.

If the purchaser decides to continue the purchase process with the  
**selected vehicle make and model**, two **options** are presented to  
the **purchaser** in this embodiment. The first is to notify a dealer  
nearby the **purchaser** that the **purchaser** is interested in the  
**selected make and model vehicle**. This may be accomplished in an  
**automated** manner by clicking on a "Talk to Dealer" text icon 120. If  
this option is selected, the **purchase** process proceeds in accordance  
with the methods described in co-pending applications 091231,525 and  
091231,415 which are mentioned and incorporated by reference above...

17/3,K/3 (Item 3 from file: 349)

DIALOG(R)File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00787803

**TRACKING SYSTEM FOR CUSTOMER ELECTRONIC PURCHASE REQUESTS AND PURCHASES**  
**SYSTEME DE SUIVI DES DEMANDES D'ACHAT ELECTRONIQUES ET DES ACHATS DES**  
**CLIENTS**

Patent Applicant/Assignee:

AUTOBYTEL COM INC, 18872 MacArthur Boulevard, 2nd floor, Irvine, CA 92612  
, US, US (Residence), US (Nationality)

Inventor(s):

WALKER Tim, 2855 Baxter, Tustin, CA 92782, US,

ROWE Jared, 216 14th Street, Manhattan Beach, CA 90266, US,

WATERS Jeffrey L, 2250 Gill Village Way #915, San Diego, CA 92108, US,

CARRILLO Michelle L, 88 Carriage Drive, Foothill Ranch, CA 92610, US,

WAGONER Kevin J, 3521 North Tamarind Avenue, Rialto, CA 92377-3645, US,

Legal Representative:

DELANEY Karoline A (agent), Knobbe, Martens, Olson & Bear, LLP, 16th

Floor, 620 Newport Center Drive, Newport Beach, CA 92660, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200120516 A2 20010322 (WO 0120516)

Application: WO 2000US24857 20000911 (PCT/WO US0024857)

Priority Application: US 99398103 19990916

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ  
CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EE  
EE (utility model) ES FI FI (utility model) GB GD GE GH GM HR HU ID IL IN

IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
PL PT RO RU SD SE SG SI SK SK (utility model) SL TJ TM TR TT TZ UA UG UZ  
VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 16731

Fulltext Availability:

Detailed Description

Detailed Description

... specifics record contents and the vehicle model accessories record contents may be appropriately displayed in a web page. The buyer may then specify the desired **vehicle** specifics and the desired vehicle accessories .

In one embodiment, a new **vehicle database** may be comprised of a list of new **vehicle** records which may be stored in the Data Center storage medium 106. Each new vehicle model available for **purchase** through the Data Center system is associated with a new vehicle record. Figure 4 illustrates a new vehicle record suitable for use with the invention... items section of the transaction worksheet 1306 of the purchase request summary form

1304. The modify options form 1602 provides the seller with a **selectable** list of **options** for the particular **vehicle** .

The **list** of **options** is preferably generated by the edit request module 1211 submitting a query, such as an SQL query, to a **database** which stores a table with records that include options in accordance with **vehicle** type and **vehicle make** .

Each option **listed** in the modify options form 1602 is associated with a check box. A check mark in a check box indicates that the option corresponding to...green exterior and a beige interior to a black exterior and a white interior. Figure 1 9C illustrates the options that are provided when the **seller** clicks on the color selection box 1908. The selections provided by the color selection box 1908 are preferably retrieved by the **database** access module 608 from a record in the **database** which includes the available **colors** for particular **vehicle** models.

Referring back to figure 19A, a third section 1910 of the purchase request detail form 1904 displays a listing of options which are available selection box 1908 is preferably retrieved from the new **vehicle** record (Figure 4) for the **selected vehicle** .

Figure 20A illustrates a new **vehicle selection** form 2004 which is displayed in response to a selection of the select new car" option 1805 from the modify vehicle selection box 1802 in...

...clicks on the new vehicle make selection box 2006, a listing of vehicle manufacturers is displayed. The vehicle make listing data is preferably retrieved from **database** records which specify the manufacturers for new vehicles that are available to the seller. Preferably, the seller selects a vehicle manufacturer from the new vehicle...

...Submit Vehicle Information" button 2012, the purchase request detail form 1906 is displayed. The purchase request detail form 1906 is used by the seller to **select** the **options** for the new **vehicle** as was discussed above with reference to Figure 19A, 1913, and 19C. Preferably, the **seller** asks the **buyer** for the desired options and selects such options from the **purchase** request detail



17/3,K/4 (Item 4 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00786999 \*\*Image available\*\*

UNIFORM ELECTRONIC PURCHASE REQUEST FOR CUSTOMER AND DEALER  
DEMANDE D'ACHAT ELECTRONIQUE UNIFORME POUR CLIENT ET REVENDEUR

Patent Applicant/Assignee:

AUTOBYTEL COM INC, 18872 MacArthur Boulevard, 2nd Floor, Irvine, CA 92612  
, US, US (Residence), US (Nationality)

Inventor(s):

WALKER Tim, 2855 Baxter, Tustin, CA 92782, US,  
ROWE Jared, 216 14th Street, Manhattan Beach, CA 90266, US,  
WATERS Jeffrey L, 2250 Gill Village Way, #915, San Diego, CA 92108, US,  
CARRILLO Michelle L, 88 Carriage Drive, Foothill Ranch, CA 92610, US,  
WAGONER Kevin J, 3521 North Tamarind Avenue, Rialto, CA 92377-3645, US,

Legal Representative:

DELANEY Karoline A (agent), Knobbe, Martens, Olson and Bear, LLP, 16th  
Floor, 620 Newport Center Drive, Newport Beach, CA 92660, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200120486 A2 20010322 (WO 0120486)

Application: WO 2000US40867 20000911 (PCT/WO US0040867)

Priority Application: US 99398569 19990916

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ  
CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EE  
EE (utility model) ES FI FI (utility model) GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
PL PT RO RU SD SE SG SI SK SK (utility model) SL TJ TM TR TT TZ UA UG UZ  
VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 15337

Fulltext Availability:

Detailed Description

Detailed Description

... specifics record contents and the vehicle model accessories record  
contents may be appropriately displayed in a web page. The buyer may then  
specify the desired **vehicle** specifics and the desired vehicle  
**accessories** .

In one embodiment, a new **vehicle database** may be comprised of a **list**  
of new **vehicle** records which may be stored in the Data Center storage  
medium 106. Each new vehicle model available for **purchase** through the  
Data Center system is associated with a new vehicle record. Figure 4  
illustrates a new vehicle record suitable for use with the invention...  
additional items section of the transaction worksheet 1306 of the  
purchase request summary form

1304. The modify options form 1602 provides the seller with a **selectable**  
list of **options** for the particular **vehicle** .

The **list** of **options** is preferably generated by the edit request  
module 1211 submitting a query, such as an SQL query, to a **database**  
which stores a table with records that include options in accordance with  
**vehicle** type and **vehicle make** .

Each option **listed** in the modify options form 1602 is associated with a  
check box. A check mark in a check box indicates that the option  
corresponding to...a green exterior and a beige interior to a black  
exterior and a white interior. Figure 19C illustrates the options that  
are provided when the **seller** clicks on the color selection box 1908.  
The selections provided by the color selection box 1908 are preferably

retrieved by the **database** access module 608 from a record in the **database** which includes the available **colors** for particular **vehicle** models.

Referring back to figure 19A, a third section 1910 of the purchase request detail form 1904 displays a listing of options which are available...

...several colors which are available for the selected vehicle. The color combination listing in the color selection box 1908 is preferably retrieved from the new **vehicle** record (Figure 4) for the **selected vehicle**.

Figure 20A illustrates a new **vehicle selection** form 2004 which is displayed in response to a selection of the useselect new car" option 1805 from the modify vehicle selection box 1802 in...

...clicks on the new vehicle make selection box 2006, a listing of vehicle manufacturers is displayed. The vehicle make listing data is preferably retrieved from **database** records which specify the manufacturers for new vehicles that are available to the seller. Preferably, the seller selects a vehicle manufacturer from the new vehicle...Submit Vehicle Information" button 2012, the purchase request detail form 1906 is displayed. The purchase request detail form 1906 is used by the seller to **select** the **options** for the new **vehicle** as was discussed above with reference to Figure 19A, 1913, and 19C. Preferably, the **seller** asks the **buyer** for the desired options and selects such options from the **purchase** request detail form 1906.

Figure 21A illustrates a used vehicle selection form 2104 which is displayed in response to a selection of the "select used..."

17/3,K/5 (Item 5 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00786174 \*\*Image available\*\*

**ELECTRONIC PURCHASE REQUEST SYSTEM PERMITTING DEALER MODIFICATION OF BUYER SELECTION**

**SYSTEME ELECTRONIQUE DE COMMANDE D'ACHAT PERMETTANT AU CONCESSIONNAIRE DE MODIFIER LA SELECTION DE L'ACHETEUR**

Patent Applicant/Assignee:

AUTOBYTEL COM INC, 18872 MacArthur Blvd., 2nd Floor, Irvine, CA 92612, US  
, US (Residence), US (Nationality)

Inventor(s):

WALKER Tim, 2855 Baxter, Tustin, CA 92782, US,  
ROWE Jared, 216 14th Street, Manhattan Beach, CA 90266, US,  
WATERS Jeffrey L, 2250 Gill Village Way, #915, San Diego, CA 92108, US,  
CARRILLO Michelle L, 88 Carriage Drive, Foothill Ranch, CA 92610, US,  
WAGONER Kevin J, 3521 North Tamarind Avenue, Rialto, CA 92377-3645, US,

Legal Representative:

DELANEY Karoline A (agent), Knobbe, Martens, Olson and Bear, LLP, 620  
Newport Center Drive, 16th Floor, Newport Beach, CA 92660, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200119402 A2 20010322 (WO 0119402)

Application: WO 2000US24731 20000911 (PCT/WO US0024731)

Priority Application: US 99398560 19990916

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ  
CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EE  
EE (utility model) ES FI FI (utility model) GB GD GE GH GM HR HU ID IL IN  
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ  
PL PT RO RU SD SE SG SI SK SK (utility model) SL TJ TM TR TT TZ UA UG UZ  
VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Fulltext Availability:  
Detailed Description

#### Detailed Description

... specifics record contents and the vehicle model accessories record contents may be appropriately displayed in a web page. The buyer may then specify the desired **vehicle** specifics and the desired vehicle **accessories** .

In one embodiment, a new **vehicle database** may be comprised of a **list** of new **vehicle** records which may be stored in the Data Center storage medium 106. Each new vehicle model available for **purchase** through the Data Center system is associated with a new vehicle record. Figure 4 illustrates a new vehicle record suitable for use with the invention... items section of the transaction worksheet 1306 of the purchase request summary form

1304. The modify options form 1602 provides the seller with a **selectable** list of **options** for the particular **vehicle** .

The **list** of **options** is preferably generated by the edit request module 1211 submitting a query, such as an SCIL query, to a **database** which stores a table with records that include options in accordance with **vehicle** type and **vehicle make** .

Each option **listed** in the modify options form 1602 is associated with a check box. A check mark in a check box indicates that the option corresponding to...a green exterior and a beige interior to a black exterior and a white interior. Figure 19C illustrates the options that are provided when the **seller** clicks on the color selection box 1908. The selections provided by the color selection box 1908 are preferably retrieved by the **database** access module 608 from a record in the **database** which includes the available **colors** for particular **vehicle** models.

Referring back to figure 19A, a third section 1910 of the purchase request detail form 1904 displays a listing of options which are available...

...several colors which are available for the selected vehicle. The color combination listing in the color selection box 1908 is preferably retrieved from the new **vehicle** record (Figure 4) for the **selected vehicle** .

Figure 20A illustrates a new **vehicle selection** form 2004 which is displayed in response to a selection of the select new car" option 1805 from the modify vehicle selection box 1802 in...

...clicks on the new vehicle make selection box 2006, a listing of vehicle manufacturers is displayed. The vehicle make listing data is preferably retrieved from **database** records which specify the manufacturers for new vehicles that are available ...Submit Vehicle Information" button 2012, the purchase request detail form 1906 is displayed. The purchase request detail form 1906 is used by the seller to **select** the **options** for the new **vehicle** as was discussed above with reference to Figure 19A, 1913, and 19C. Preferably, the **seller** asks the **buyer** for the desired options and selects such options from the **purchase** request detail form 1906.

Figure 21 A illustrates a used vehicle selection form 2104 which is displayed in response to a selection of the "select...

(c) 2001 WIPO/MicroPat. All rts. reserv.

00752342      \*\*Image available\*\*

**A PROCESS FOR IMPROVING PRINT QUALITY OF A DOCUMENT CREATED UTILIZING  
INTERNET-TYPE NETWORK APPLICATIONS**

**PROCEDE AMELIORANT LA QUALITE D'IMPRESSION D'UN DOCUMENT PRODUIT A L'AIDE  
D'APPLICATIONS DE RESEAU DU TYPE INTERNET**

Patent Applicant/Assignee:

HIJK, 1545 Faraday Avenue, Carlsbad, CA 92008, US, US (Residence), US  
(Nationality)

Inventor(s):

PATTERSON Dennis M, 2772 Windmill View Road, El Cajon, CA 92020, US

TEMPLETON Jamie S, 986 Meadowlark Drive, Laguna Beach, CA 92651, US

Legal Representative:

KELLEY Scott W, Kelly Bauersfeld Lowry & Kelley, LLP, Suite 1650, 6320  
Canoga Avenue, Woodland Hills, CA 91367, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200065762 A2 20001102 (WO 0065762)

Application: WO 2000US11039 20000424 (PCT/WO US0011039)

Priority Application: US 99130928 19990424

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK  
DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR  
LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ  
TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 5300

Fulltext Availability:

Detailed Description

Detailed Description

... that the application is available on-line, updates are immediately  
available.

The present invention also provides advantages to those advertising  
products and information on the **Internet** as the end user can select  
product and information graphics and text which appeals to the end user  
and print the document for later reference. For example, a car dealership  
can offer the service of allowing the potential consumer to **select** a  
**car** type, **color** , and **accessories** for assembly and printing so that  
the potential consumer can view his combined selection. Details such as  
warranties, performance, rebates, and dealership information can also be  
provided as accompanying text which will increase the likelihood that the  
consumer will **purchase** a car from that particular dealer.

Although the inventive process has been described in detail for purposes  
of illustration, various modifications may be made without...

17/3,K/7      (Item 7 from file: 349)

DIALOG(R)File 349:PCT Fulltext

(c) 2001 WIPO/MicroPat. All rts. reserv.

00748797      \*\*Image available\*\*

**COMPARATIVE QUOTING SYSTEM**

**SYSTEME DE COTATION COMPARATIVE**

Patent Applicant/Assignee:

CONSUMER FINANCIAL NETWORK, Suite 100, 4450 River Green Parkway, Duluth,  
GA 30096, US, US (Residence), US (Nationality)

Inventor(s):

YOUNG John M, 4000 Post Gate Drive, Cumming, GA 30040, US

GILLESPIE Teresa J, 5720 Ashwood Trace, Alpharetta, GA 30202, US

EDWARDS Steve L, 4096 North Arnold Mill Road, Woodstock, GA 30188, US

DAVIS Richard E, 3262 Bluff Road, Marietta, GA 30062, US  
CHLAN Michael M, 10565 Kingsmark Trail, Alpharetta, GA 30022, US  
BEAM Charles A, 4684 Avocet Drive, Norcross, GA 30092, US

Legal Representative:

KUESTER Jeffrey R, Thomas, Kayden, Horstemeyer & Risley, L.L.P., Suite  
1500, 100 Galleria Parkway, N.W., Atlanta, GA 30339, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200062219 A1 20001019 (WO 0062219)

Application: WO 99US8129 19990413 (PCT/WO US9908129)

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES  
FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD  
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ  
VN YU ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 10975

Fulltext Availability:

Detailed Description

Detailed Description

... for trade in vehicles.

That is, if the member is pricing trade in vehicles the system will  
proceed to a similar process to access a **data base** of prices that  
lenders are willing to pay for a used car trade in, as opposed to the  
values of the lenders price used cars...

...make of the vehicle (step 63 8), and the model and body style of the  
vehicle (step 640). From this information, the system accesses a  
**database** of pricing information, and presents pricing overview  
information, as well as optional equipment for the member to view (step  
640). From this information, the member may specify **select optional  
equipment** and obtain final **vehicle** pricing information (step 644).  
Again, the member may select to return and reenter a new trade in  
vehicle, or to reenter the program at the...

17/3,K/8 (Item 8 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00729656 \*\*Image available\*\*

REAL TIME VEHICLE PURCHASE REQUEST MANAGEMENT METHOD AND SYSTEM  
PROCEDE ET SYSTEME DE GESTION DE DEMANDES D'ACHAT DE VEHICULES EN TEMPS  
REEL

Patent Applicant/Assignee:

AUTOBYTEL COM INC, 2nd floor, 18872 MacArthur Boulevard, Irvine, CA 92612  
, US, US (Residence), US (Nationality)

Inventor(s):

WOLFE Don P, 48 Middlebury Lane, Irvine, CA 92620, US

NOTTAGE Douglas S, 146 Pergola, Irvine, CA 92612, US

WAGONER Kevin J, 3521 N. Tamarind Avenue, Rialto, CA 92377-3645, US

NELSON Tim E, 3783 Live Oak Drive, Pomona, CA 91767, US

Legal Representative:

ALTMAN Daniel E, Knobbe, Martens, Olson and Bear, LLP, 16th floor, 620  
Newport Center Drive, Newport Beach, CA 92660, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200042558 A2 20000720 (WO 0042558)

Application: WO 2000US962 20000114 (PCT/WO US0000962)

Priority Application: US 99231415 19990114

Designated States: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM  
Publication Language: English  
Filing Language: English  
Fulltext Word Count: 17018

Fulltext Availability:  
Detailed Description

Detailed Description

... vehicle model. In an alternative embodiment, the vehicle model specifics record contents and the vehicle model accessories record contents may be appropriately displayed in a **web** page. The buyer may then specify the desired **vehicle** specifics and the desired vehicle **accessories** .

In one embodiment, a new **vehicle database** may be comprised of a list of new **vehicle** records which may be stored in the Data Center storage medium 106. Each now vehicle model available for **purchase** through the Data Center system is associated with a new vehicle record. Figure 4 illustrates a new vehicle record suitable for use with the invention...

17/3,K/9 (Item 9 from file: 349)

DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00729640 \*\*Image available\*\*

**COMPUTER IMPLEMENTED PURCHASING SYSTEM WITH AVAILABLE INVENTORY MANAGEMENT FUNCTIONS**

**SYSTEME D'ACHAT PAR ORDINATEUR AVEC FONCTIONS DE GESTION DU STOCK DISPONIBLE**

Patent Applicant/Assignee:

AUTOBYTEL COM INC, 2nd Floor, 18872 MacArthur Boulevard, Irvine, CA 92612  
, US, US (Residence), US (Nationality)

Inventor(s):

NOTTAGE Douglas Sanford, 146 Pergola, Irvine, CA 92612, US,  
WOLFE Donald Paul Jr, 48 Middlebury Lane, Irvine, CA 92620, US,  
WAGONER Kevin Joel, 3521 North Tamarind Avenue, Rialto, CA 92377, US,  
TEDESCO Michael Corey, 13350 Arvidson Road, Chino, CA 91710, US,  
RATHWICK Zane Adam, 7 Stone Creek Lane, Laguna Hills, CA 92653, US,  
KLEIN John Erik, 4241 Lafayette Place, Culver City, CA 90232, US,

Legal Representative:

ALTMAN Daniel E (agent), Knobbe, Martens, Olson & Bear, LLP, Sixteenth  
Floor, 620 Newport Center Drive, Newport Beach, CA 92660-8016, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200042542 A2-A3 20000720 (WO 0042542)

Application: WO 2000US1045 20000114 (PCT/WO US0001045)

Priority Application: US 99232188 19990114

Designated States: AE AL AM AT (utility model) AU AZ BA BB BG BR BY CA  
CH CN CR CU CZ CZ (utility model) DE DE (utility model) DK DK (utility  
model) DM EE EE (utility model) ES FI FI (utility model) GB GD GE GH GM  
HR HU ID IL IN IS JP KE KG KP KR KR (utility model) KZ LC LK LR LS LT LU  
LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SK (utility  
model) SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 8573

Fulltext Availability:  
Detailed Description

Detailed Description

... may conclude and save the record of the newly added vehicle by

entering the price and expiration date of offer, and submitting the information by **selecting** "submit."  
Batch additions of **vehicles** may also be performed by using the Kelley Kar Power upload feature as shown in Figure 7. Some vehicle dealers have existing **software** into which vehicle inventory data is already input. One commercial embodiment of such **software** is sold by Kelly as Kelly Kar Power. For the convenience of the dealer, this feature may be used to upload data which has been entered into an existing Kelly Kar Power application program for many vehicles into vehicle records to be stored on the Data Center **database** all at once.

Another useful feature of the inventory management module 630 is the batch photo upload procedure. As described above, a complete vehicle record...

17/3,K/10 (Item 10 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00729639 \*\*Image available\*\*  
**COMPUTER IMPLEMENTED PURCHASING SYSTEM WITH AFTERMARKET PRODUCT INVENTORY DISPLAY**  
**SYSTEME D'ACHAT PAR ORDINATEUR AVEC AFFICHAGE DU STOCK DE PIECES DE RECHANGE**  
Patent Applicant/Assignee:  
AUTOBYTEL COM INC, 2nd floor, 18872 MacArthur Boulevard, Irvine, CA 92612  
, US, US (Residence), US (Nationality)  
Inventor(s):  
NELSON Timothy Edward, 3783 Live Oak Drive, Pomona, CA 91767, US  
Legal Representative:  
ALTMAN Daniel E, Knobbe, Martens, Olson & Bear, LLP, 16th floor, 620  
Newport Center Drive, Newport Beach, CA 92660-8016, US  
Patent and Priority Information (Country, Number, Date):  
Patent: WO 200042541 A2 20000720 (WO 0042541)  
Application: WO 2000US1035 20000114 (PCT/WO US0001035)  
Priority Application: US 99231898 19990114  
Designated States: AE AL AM AT  
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE  
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG  
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW  
(EA) AM AZ BY KG KZ MD RU TJ TM  
Publication Language: English  
Filing Language: English  
Fulltext Word Count: 8873

Fulltext Availability:  
Detailed Description

Detailed Description  
... This seller will have a set of vehicle records describing particular makes and models of vehicle, and these records may further be associated with a **list** of available aftermarket accessories. Thus, at block 716, the **list** of aftermarket **accessories** for the **vehicle** is displayed to the potential **buyer** over the computer network in response to the **buyer**'s request, and along with information about the vehicle model itself. As will be described in further detail below, the potential **buyer** may complete the **purchase** request by **selecting** one or more aftermarket **accessories** off of the **list** which was generated by the dealer.

This transaction format increases the efficiency of the car buying process by allowing potential buyers to express their purchasing...

17/3,K/11 (Item 11 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00631499      \*\*Image available\*\*

**PORTABLE SALES PRESENTATION SYSTEM WITH SELECTIVE SCRIPTED SELLER PROMPTS  
SYSTEME PORTATIF D'ARGUMENTATION POURVU DE GUIDES DU VENDEUR A SCENARIOS  
SELECTIFS**

Patent Applicant/Assignee:

ROSEFAIRE DEVELOPMENT LTD, ROSEFAIRE DEVELOPMENT LTD. , 33 Church Street,  
Hamilton , BM

Inventor(s):

BROCKMAN Robert T, BROCKMAN, Robert, T. , 903 Oak Valley, Houston, TX  
77024 , US

JONES Donald D, JONES, Donald, D. , Suite 235, 8 South Shore Road,  
Smiths, FL 05 , BM

Patent and Priority Information (Country, Number, Date):

Patent: WO 9914688 A2 19990325

Application: WO 98US19159 19980915 (PCT/WO US9819159)

Priority Application: US 97929929 19970915

Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES

FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD

MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US

UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE

CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN

GW ML MR NE SN TD TG

Publication Language: English

Filing Language: English

Fulltext Word Count: 13301

Fulltext Availability:

Detailed Description

Detailed Description

... store to (Attributes and locate vehicles matching specific criteria  
Price / Payment tab) Figure 10 SEL Vehicle search A forin for searching  
the sales information data (**Options** tab) store to locate **vehicles**  
matching specific criteria Figure I I **Vehicles** found A **list** of  
**vehicles** found in the **sales** information data store that match the  
search criteria, along with detailed information about a highlighted  
**vehicle** Figure 12 VEH **Selected vehicle** Information about a specific  
**vehicle** ; includes a "Hold for salesman" button in the lower right comer  
to place a temporary hold on the vehicle Figure 13 CBI Credit bureau  
Displays...



Display 19/6,K/1 (Item 1 from file: 349)  
DIALOG(R)File 349:(c) 2001 WIPO/MicroPat. All rts. reserv.

00337996

**COMPUTER VIRUS MONITORING SYSTEM**

**SYSTEME ANTIVIRUS INFORMATIQUE**

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 4843

Publication Year: 1993

Inventor(s):

**BRANHAM Reginald K**

- end of display -

?t /5

19/5/1 (Item 1 from file: 349)  
DIALOG(R)File 349:PCT Fulltext  
(c) 2001 WIPO/MicroPat. All rts. reserv.

00337996

**COMPUTER VIRUS MONITORING SYSTEM**

**SYSTEME ANTIVIRUS INFORMATIQUE**

Patent Applicant/Assignee:

CYBERLOCK DATA INTELLIGENCE INC

Inventor(s):

**BRANHAM Reginald K**

Patent and Priority Information (Country, Number, Date):

Patent: WO 9325024 A1 19931209

Application: WO 93US5029 19930526 (PCT/WO US9305029)

Priority Application: US 92888909 19920526

Designated States: CA JP AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE

Main International Patent Class: H04L-009/00;

Publication Language: English

Fulltext Availability:

Detailed Description

Claims

Fulltext Word Count: 4843

**English Abstract**

A method and an apparatus for preventing the infection of computer systems (10) by computer viruses is disclosed. The computer virus monitoring system provides an external security device (15) that stores copies of the host boot sector and file allocation table, and electronic fingerprints of executable files on the host system disk. The external security device (15) monitors writes to the host disk and informs a network monitoring host (26) if the boot sector, file allocation table or electronic fingerprints are altered. The network monitoring host (26) responds to such an emergency by saving the status of the host system (12) and transferring corrective software to remove the virus. The computer virus monitoring system further provides for periodic scanning of the host files to detect and eradicate known viruses.

**Japanese Abstract**

L'invention se rapporte a un procede et a un appareil servant a empecher que des systemes d'ordinateurs (10) ne soient contamines par des virus informatiques. Ledit systeme antivirus informatique utilise un dispositif de securite externe (15) qui stocke des copies du secteur d'amorçage du serveur sous surveillance et de la table d'affectation de fichier (FAT), ainsi que des empreintes electroniques des fichiers executables sur le disque du systeme serveur sous surveillance. Le dispositif de securite externe (15) surveille les operation d'ecriture faites dans le disque du serveur sous surveillance et informe un ordinateur de surveillance (26) du reseau lorsque le secteur d'amorçage, la table d'affectation de fichier ou les empreintes electroniques ont subi des alterations.

L'ordinateur de surveillance (26) du reseau reagit a une telle information d'urgence en sauvegardant l'etat du systeme sous surveillance (12) et en transferant des logiciels correcteurs pour eliminer le virus. Un tel systeme antivirus informatique effectue en outre un balayage periodique des fichiers du systeme sous surveillance pour detecter et detruire les virus connus.

?

File 15:ABI/Inform(R) 1971-2001/Sep 14  
(c) 2001 ProQuest Info&Learning  
File 16:Gale Group PROMT(R) 1990-2001/Sep 13  
(c) 2001 The Gale Group  
File 160:Gale Group PROMT(R) 1972-1989  
(c) 1999 The Gale Group  
File 148:Gale Group Trade & Industry DB 1976-2001/Sep 13  
(c)2001 The Gale Group  
File 621:Gale Group New Prod.Annou.(R) 1985-2001/Sep 13  
(c) 2001 The Gale Group  
File 275:Gale Group Computer DB(TM) 1983-2001/Sep 12  
(c) 2001 The Gale Group  
File 634:San Jose Mercury Jun 1985-2001/Sep 13  
(c) 2001 San Jose Mercury News  
File 47:Gale Group Magazine DB(TM) 1959-2001/Sep 13  
(c) 2001 The Gale group  
File 635:Business Dateline(R) 1985-2001/Sep 13  
(c) 2001 ProQuest Info&Learning  
File 570:Gale Group MARS(R) 1984-2001/Sep 13  
(c) 2001 The Gale Group

Set	Items	Description
S1	3078396	VEHICLE? OR AUTOMOBILE? OR AUTOMOTIVE OR (CAR OR CARS OR V- AN OR VANS OR SUV OR SUVS)/FW OR TRUCK? ?
S2	2124173	ACCESSOR? OR OPTIONS OR WHEEL? ? OR OPTIONAL(3W) (EQUIPMENT OR FEATURE? ?) OR EQUIPMENT(2W) PACKAGE??
S3	4165777	PREVIEW? OR VISUAL? OR TRY?(3W)OUT OR (DISPLAY? OR SHOW? OR DEPICT?) (3N) (APPEAR? OR INSTALL? OR IMAGE? ? OR PICTURE? ? OR REPRESENTATION? OR GRAPHIC OR LOOK??) OR SEE/FW OR SEEING
S4	365161	(SELECT? OR PICK? OR LIST? OR MENU? OR PULL()DOWN OR PULLD- OWN OR CHOOS? OR CHOSEN) (7N) (MAKE? ? OR VEHICLE? OR PARTS OR - WHEEL? ? OR ACCESSORIES OR MODEL??? OR STYLE)
S5	183	S1(5N)S2(S)S3(S)S4
S6	9163	AUTOBYTEL OR AUTO()BYTEL OR EDMUNDS OR PITSTOP OR AUTOWARE- ( )TECHNOLOGIES
S7	78	S5(S) (S6 OR INTERNET? OR ONLINE OR ON()LINE OR DATABASE? OR DATA()BASE? OR SOFTWARE OR AUTOMATE? OR VIRTUAL OR DIGITAL OR COMPUTER? OR WEB OR WEBPAGE? OR WEBSITE? OR PRODIGY OR MINIT- EL OR VIDEOTEX?)
S8	42	S7 NOT PY=2000:2001
S9	25	RD (unique items)
S10	1444	S1(S)S2(5N)S4(S) (BUY? OR SELL??? OR PURCHAS? OR SALE OR SA- LES OR SOLD OR BOUGHT OR (SHOPPING OR VIRTUAL) (2W) (CART? ? OR KART? ?))
S11	362	S10(S) (S6 OR INTERNET? OR ONLINE OR ON()LINE OR DATABASE? - OR DATA()BASE? OR SOFTWARE OR AUTOMATE? OR VIRTUAL OR DIGITAL OR COMPUTER? OR WEB OR WEBPAGE? OR WEBSITE? OR PRODIGY OR MIN- ITEL OR VIDEOTEX?)
S12	333	S11 NOT S5
S13	126	S12 NOT PY=2000:2001
S14	106	S13 NOT PD=19990922:19991231
S15	75	RD (unique items)
?		

9/3,K/1 (Item 1 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

01964708 47298292

**Net heads**

Anonymous

Management Today PP: 38 Dec 1999

ISSN: 0025-1925 JRNL CODE: MTO

WORD COUNT: 567

...TEXT: products.

They can already choose a new car, specify options, price it and submit a purchase or test-drive request to their chosen dealer totally **online**. Alternatively, customers can search our network's used-vehicle stock for a specific **model** and **see** a **digital** picture of the **chosen** car. But this is only the start of a process that could re-engineer our whole business over the next few years.

What is the...

9/3,K/2 (Item 2 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

01774937 04-25928

**Best deals on the road**

Edgerton, Jerry

Money v28n3 PP: 140-148 Mar 1999

ISSN: 0149-4953 JRNL CODE: MON

WORD COUNT: 3506

...TEXT: to cut a deal on the new car, minivan or sport utility you want.

IF YOU PLAN TO HEAD INTO THE NEXT millennium behind the **wheel** of a new **car**, you've **picked** the best time in at least a decade to shop. Not only are new cars better made and more reliable than they were just five...

... find a target price for 385 of the most popular '99 cars, minivans, sport utilities and pickup trucks. U In addition, consider booting up your **computer** before you take a single test drive. Nowadays, the most consumer-friendly force in the automotive marketplace may be the **Internet**. That's where you can find everything from the latest news on dealer incentives and top leases to a service that will bargain with a dealer on your behalf. A quarter of the people who buy or lease a new car already go **online** to get price or other information, according to J.D. Power & Associates. In "Tools of the Trade" on the opposite page, we've listed our favorite **Web** resources for car shoppers, along with other nonelectronic services that are worth considering. For advice on adding options without overpaying, **see** the box on page 146.

(Table Omitted)

Starting in March, when General Motors rolls out direct online car shopping, auto buyers will have even more... Websites and independent services that can help you buy a car, truck or van.

Before you negotiate, find out your chosen model's invoice price (**see** the definitions below), which you can look up for 385 popular vehicles in the tables beginning on page 151 and at [www.money.com/carbuyer](http://www.money.com/carbuyer). (At that site, you can also search our **database** for key features such as resale value or maintenance costs.) For even more details, including prices for specific **options**, pick up Edmund's New Car Prices (\$8.99) or go to [www.edmunds.com](http://www.edmunds.com), where you'll find a frequently updated list of rebates, dealer incentives and promotional lease deals. A competing publication, Kelley

Blue Book, also lists dealercost data on its **Website** , www.kbb.com.

Want to  
cut the test drive and dealer haggling out of car buying? Try a no-fee  
Internet buying service such as...

**9/3,K/3 (Item 3 from file: 15)**

DIALOG(R)File 15:ABI/Inform(R)

(c) 2001 ProQuest Info&Learning. All rts. reserv.

01121982 97-71376

**Cars that don't stay parked as inventory**

Anonymous

Transportation & Distribution v36n11 PP: 88-92 Nov 1995

ISSN: 0895-8548 JRNL CODE: HLS

WORD COUNT: 1857

...TEXT: our facility for days be: cause we couldn't get shipping  
instructions as fast as we got the vehicles. Now it's instantaneous," says  
Ludden.

**Vehicles** requiring other **accessories** , such as a set of stripes, or  
audio equipment, go to the shop. Before implementing the client/server  
system, the office staff had to key manufacturers' **accessories lists** in  
the mini-**computer** . The **computer** generated punch cards that were carried  
to the shop and checked off by shop workers as they completed a job. No  
**database** existed for the shop work, so the only way to tell when a  
vehicle was finished was to **see** if all the shop's punch cards for the  
vehicle were gone.

"The shop technicians can now see a work order showing exactly what needs  
...

**9/3,K/4 (Item 1 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

(c) 2001 The Gale Group. All rts. reserv.

07378045 Supplier Number: 59997855 (USE FORMAT 7 FOR FULLTEXT)

**E-LOAN, INC. (Brief Article)**

Japan-U.S. Business Report, n362, pNA

Nov, 1999

Language: English Record Type: Fulltext

Article Type: Brief Article

Document Type: Newsletter; Trade

Word Count: 76

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

The firm that E-LOAN, INC. formed last spring with SOFTBANK CORP.'s  
consumer finance unit (**see** Japan-U.S. Business Report No. 357, June 1999,  
p. 23) will help people who buy cars and trucks through VERTEX VISION  
INC.'s **on -line** used-vehicle auctions to arrange financing. A localized  
version of the Dublin, California firm's **virtual** loan broker takes  
information about the **vehicle** , lets users **choose** insurance **options** ,  
calculates likely premiums and submits loan applications to finance  
companies.

**9/3,K/5 (Item 2 from file: 16)**

DIALOG(R)File 16:Gale Group PROMT(R)

(c) 2001 The Gale Group. All rts. reserv.

06913831 Supplier Number: 58479079 (USE FORMAT 7 FOR FULLTEXT)

**(2) Autobytel.com Auction Finds Jerry Seinfeld's Saab a New Co-Star.**

PR Newswire, p7082

Nov 17, 1999

Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 774

... Autobytel.com Auction, to the doorstep of its new owner, and to donate the proceeds of this sale to such a worthy charitable organization."

The **Autobytel .com** Auction delivers the most comprehensive automotive auction process to date, including new and used **vehicle listings** by dealers and consumers, as well as classic car **listings** . There is also a **parts** and **accessories** component hosted by the FairMarket Auction Network. In addition, the **Autobytel .com** Auction incorporates numerous safeguards specifically designed and tested for the auction environment, including the AutoSchematic(TM), a **web** -based, **graphic depiction** of the exterior, interior and mechanical details of the vehicle, E-escrow, roadside assistance, arbitration, and transportation. Additionally, **Autobytel .com** provides multiple financing, refinancing and insurance **options** , specific **vehicle** maintenance schedules, service reminders and numerous other automotive services.

"The Autobytel.com Auction is a pleasant and efficient way to purchase a car online," said...

9/3,K/6 (Item 3 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2001 The Gale Group. All rts. reserv.

06813764 Supplier Number: 57607411 (USE FORMAT 7 FOR FULLTEXT)  
**Autobytel.com Auction Finds Jerry Seinfeld's Saab a New Co-Star.**  
PR Newswire, p7080  
Nov 17, 1999  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 774

... Autobytel.com Auction, to the doorstep of its new owner, and to donate the proceeds of this sale to such a worthy charitable organization."

The **Autobytel .com** Auction delivers the most comprehensive automotive auction process to date, including new and used **vehicle listings** by dealers and consumers, as well as classic car **listings** . There is also a **parts** and **accessories** component hosted by the FairMarket Auction Network. In addition, the **Autobytel .com** Auction incorporates numerous safeguards specifically designed and tested for the auction environment, including the AutoSchematic(TM), a **web** -based, **graphic depiction** of the exterior, interior and mechanical details of the vehicle, E-escrow, roadside assistance, arbitration, and transportation. Additionally, **Autobytel .com** provides multiple financing, refinancing and insurance **options** , specific **vehicle** maintenance schedules, service reminders and numerous other automotive services.

"The Autobytel.com Auction is a pleasant and efficient way to purchase a car online," said...

9/3,K/7 (Item 4 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2001 The Gale Group. All rts. reserv.

05293342 Supplier Number: 48059979 (USE FORMAT 7 FOR FULLTEXT)  
**Web Site Saves Area Car Shoppers Time, Frustration With Full Access to Los Angeles County Dealer Inventories; CarQwik, First Online Used Car Superstore, Goes Live in Southland.**  
Business Wire, p10200157  
Oct 20, 1997  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 776

... industry innovation. It is only fitting that we launch the first used car site in this metro area."

03698854 Supplier Number: 45235915

**Get the picture: New tool allows sales people to show the wheel customer something tangible.**

Tire Review, p26

Jan, 1995

Language: English Record Type: Abstract

Document Type: Magazine/Journal; Trade

**ABSTRACT:**

A new Microsoft Windows **computer** program called **vehicle** Design Center allows **wheel** retailers using a special camera to take a **digital** photograph of a customer's own **car** and show the **wheel selections** on the image, to allow the user to **choose** a set of **wheels**. The dealer can also make a printout showing the **wheels** on the **car** for the customer. Retailers can purchase a six month agreement for the **software** at \$150 per month or 12 months at \$135 per month. The program requires a **computer** that is 486-based or higher. For further information, call 404-672-7238 or send \$15 to **Visual Reality**, 3863 Snapfinger Road, Lithonia, GA 30038 in order to get a demonstration video. ...

9/3,K/16 (Item 1 from file: 160)

DIALOG(R)File 160:Gale Group PROMT(R)

(c) 1999 The Gale Group. All rts. reserv.

01335819

**Boosting Sales Electronically.**

INDUSTRY WEEK (FORMERLY STEEL MAGAZINE) March 31, 1986 p. 33-351

General Motors Buick dealers use an interactive videodisc-**computer** graphic kiosk to help make sales pitches to customers. Called EPIC (Electronic Public Information Center), the system permits consumers and salesmen to view different **car models** in action, **select** various **options**, calculate the effects of different financing options, and track the progress of an order from any plant in North America. Buick expects to have 800 EPIC systems **installed** in dealer **showrooms** by 1988. The firm is but one of a growing number of businesses that are turning to various forms of electronic marketing to hold or...

... information in shopping malls, building lobbies, etc. Each uses television-like monitors to present information in printed or graphic form. Users communicate with a hidden **computer** by using a simplified membrane keyboard or a touch-sensitive screen. The equipment is normally concealed in stylish kiosks or in desktop enclosures. ...

9/3,K/17 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2001 The Gale Group. All rts. reserv.

10470726 SUPPLIER NUMBER: 21146515 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**1999 Trucks Hit The Road. (trucks, vans, and sport-utililty vehicles for the model year 1999) (Buyers Guide)**

Candler, Julie

Nation's Business, v86, n10, p51(1)

Oct, 1998

DOCUMENT TYPE: Buyers Guide ISSN: 0028-047X LANGUAGE: English

RECORD TYPE: Fulltext; Abstract

WORD COUNT: 4124 LINE COUNT: 00309

**TEXT:**

...the current gear until a new gear is selected with the push of a button. The Meritor system reduces shifting effort and complexity like an **automated** transmission but retains the driver's ability to choose manual control. As with light-duty trucks, the ranks of medium- and heavy-duty trucks are...

...and "torque on demand" four-wheel-drive, which transfers power to all

four wheels with the touch of a button. AM GENERAL The Hummer civilian **truck** , with full-time four-wheel drive, resembles a big, wide **SUV** , Actually, it's a Class 3 pickup truck, modified from the stalwart of the U.S. armed forces in the Persian Gulf War, the Humvee...and taller dimensions, with more rear-seat legroom, add up to the biggest cab in the industry. A third door is standard on extended-cab **models** . There's a long **list** of standard-equipment improvements, including four-wheel disc brakes with an antilock braking system and a system that senses minute changes in wheel speed under braking and adjusts the rear brake accordingly ...

...series and three of the 2500 (3/4-ton) series. Chevrolet introduces an all-new Tracker mini-SUV, with a new look. For more information, **see** the Suzuki listing, where the Vitara-a twin to the Tracker-is described. CHRYSLER The luxurious Town and Country minivan gets even more elegant with ...

...has two Magnum V-8 choices: a 230-horsepower, 5.2-liter version and a 250-horsepower, 5.9-liter option on the R/T **model** . The full-size Dodge Ram **pickup** has a 24-valve, six-cylinder Cummins diesel engine. On the model with a five-speed manual transmission, power is up from 215 horsepower to...

...250 and F-350 have the industry's first standard four-door extended cab in the GVW segment over 8,500 pounds. The Super Duty **trucks** offer four-wheel drive for dual-rear-wheel **trucks** , higher GVW ratings, and increased horsepower. They feature new 5.4-liter Triton V-8 and 6.8-liter Triton V-10 engines and an...

...and a front-mounted engine, a 3.5-liter, 24-valve V-6. The Rodeo SUV has added amenities such as a standard tilt steering **wheel** . The Amigo mini-SUV -recently returned to the U.S. market-is a two-door hardtop or soft-top version of the Rodeo. JEEP The new Grand Cherokee has...the Discovery Series II has seating for seven as an option. It has a system that reduces leaning when cornering-a first for a production **SUV** Other features include four-wheel electronic traction control and electronic brake distribution to complement the anti-lock braking system. The 4-liter V-8 engine is noticeably quieter than its...

...to 170 from 151. The climate-control and audio systems are new. And for people who get brainstorms while driving, there's an optional Travelnote **digital** memo recorder mounted on the driver's sun visor. The Mountaineer sport-utility has added optional side air bags in the front seats and an... Hino FA and FB medium-duty trucks has been increased slightly, to 168 from 165. On the heavier models--the FD, FE, FF, and SG--**computer** -controlled anti-lock brake systems have been added. ISUZU The Class 5 NQR joins Isuzu's line of lowcab-forward, medium-duty trucks. Designed for... The axle reduces chassis weight by 87 pounds and increases payload capability substantially MITSUBISHI FUSO The FG, technically a Class 3, is the only four-wheel -drive, cab-over **truck** in the United States. It can handle payloads up to 12,000 pounds and can be fitted with various bodies up to 14 feet long...

9/3,K/18 (Item 2 from file: 148)  
DIALOG(R)File 148:Gale Group Trade & Industry DB  
(c)2001 The Gale Group. All rts. reserv.

09233127 SUPPLIER NUMBER: 19063034 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
**The end of an era. (National Tire Dealers and Retreaders Association and Specialty Equipment Market Association merger)**  
Ulrich, Bob  
Modern Tire Dealer, v77, n13, p38(2)  
Dec, 1996  
ISSN: 0026-8496 LANGUAGE: English RECORD TYPE: Fulltext; Abstract  
WORD COUNT: 1212 LINE COUNT: 00095

... software #52



More than 1,600 styles of wheels and 400 cars and light trucks can be found in the updated SoftWheels Version 3.0 **wheel** marketing **software** . Customers **select wheels** from more than 90 manufacturers to **see** on screen which will look best on their vehicles.

U.S. AUTO ENTERPRISES, (800) 278-5883

9/3,K/19 (Item 3 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2001 The Gale Group. All rts. reserv.

02334443 SUPPLIER NUMBER: 03620119 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Product directory.**

Implement & Tractor, v100, p6(66)

Jan 31, 1985

ISSN: 0019-2953 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 77323 LINE COUNT: 06588

... American Sales Operations G. S. Industries Gardner Mfg. Co. Gast Mfg. Corp. Iowa Mold Tooling Co. Owens Mfg. Co. Top Air Mfg., Inc.

AIR COMPRESSORS, **VEHICLE**

MOUNTED Cosmag U.S.A. Diesel ReCon Co. A Div. of Cummins Engine Co. Fliteway Sales Div. of Metalfab Inc. G. S. Industries Gast Mfg...D. Bullard Co. David Mfg. Co. Electronic Controls Co. G. S. Industries Instrument Sales & Service, Inc. Majima Co. Ltd. Preco, Inc. SOS Signal Devices Snap-On Tools Corp. J. W. Speaker Corp. Sterling Technologies, Inc. Tractor Implement Supply Co. Tripppe Mfg. Co. Tripp Lite Div. Val-A Co. Warn Industries Webb...MAM Tractors Div. of Sumitomo Corp. Rokon Ltd. Steyr-Daimler-Puch AG

White Farm Equipment Co. IFC

Yanmar Tractor (U.S.A.), Inc.

TRACTORS, COMPACT -**See** TRACTORS, LAWN AND GARDEN RIDING

TRACTORS, CRAWLER Amitool Co. Inc. J I Case Co. Caterpillar Tractor Co. News Service Deere & Co. Fiat Trattori S.p...

9/3,K/20 (Item 4 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2001 The Gale Group. All rts. reserv.

02332564 SUPPLIER NUMBER: 03803302 (USE FORMAT 7 OR 9 FOR FULL TEXT)

**Progressive's weld system business burgeoning.**

Wrigley, Al

American Metal Market, v93, p10(1)

June 3, 1985

ISSN: 0002-9998 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 985 LINE COUNT: 00076

... market was one of the first to be affected by new trends in automation and flexibility involving programmable robots, machine vision, statistical process controls and **computerization** . Wisne said that he's never seen anything like it. "Today we're building microprocessor-controlled systems with robots to install windshields, quarter-glass and back windows in cars. Some of these systems can **see** what they're doing, and their vision systems make sure that the proper coatings and adhesives have been applied to the glass. We're also producing robotic systems for installing **wheels** --systems that pick up the **wheels** for a **car** on the production line, load the **wheels** into place, and then **pick** up the nuts and torque them down on the lugs to hold the wheels."

Wisne is impressed by the things his firm's customers are...

9/3,K/21 (Item 1 from file: 635)

DIALOG(R)File 635:Business Dateline(R)

(c) 2001 ProQuest Info&Learning. All rts. reserv.

0879385 98-39981

**VIRTUAL VEGAS** // Multimillion-dollar rides with lifelike thrills transform

a gambling capital into a mecca for the latest in high-tech,  
virtual-reality games.

Chmielewski, Dawn C

Orange County Register (Santa Ana, CA, US) pk.07

PUBL DATE: 971130

WORD COUNT: 1,672

DATELINE: Las Vegas, NV, US, Mountain

TEXT:

...Trek: The Experience: \$9.95 admission price.

Textual Illustration:

COLOR PHOTO:CHART:BLACK & WHITE PHOTO; Caption: COLOR PHOTOS OF 'RACE  
FOR ATLANTIS,' GamesWorks simulator, taking wheel of virtual Indy car  
// CHART LIST - PLAYING THE GAME (SEE END OF TEXT) // B&W CAPTION PAGE  
K09 - SPEEDWORLD COURSE; Credit: MARK AVERY

9/3,K/22 (Item 2 from file: 635)

DIALOG(R)File 635:Business Dateline(R)

(c) 2001 ProQuest Info&Learning. All rts. reserv.

0818401 97-78686

**Software makes it easy to choose best wheels for your 'wheels'**

Stuart, Stephen

New Orleans CityBusiness (Metairie, LA, US), V17 N49 p24

PUBL DATE: 970609

WORD COUNT: 827

DATELINE: Metairie, LA, US, Southwest

TEXT:

...had bought them and had them installed. For some, it was an unhappy realization.

To solve the problem, Piazza developed the idea of SoftWheels, a computer program that lets customers see how any of more than 1,600 wheel selections will look on a car or light truck before installation. Since its introduction in January 1996, SoftWheels has received a national award and hundreds of calls from wheel manufacturers and...

9/3,K/23 (Item 3 from file: 635)

DIALOG(R)File 635:Business Dateline(R)

(c) 2001 ProQuest Info&Learning. All rts. reserv.

0718678 96-77150

**Corporate report 100**

Smith, Margaret; Simonson, John

Ingram's (Kansas City, MO, US), V22 N6 p27

PUBL DATE: 960700

WORD COUNT: 8,708

DATELINE: Kansas City, MO, US, Midwest

TEXT:

...s ability to compete for top-notch talent.

2	Empower Trainers & Consultants Inc.	\$208	\$3,806	1,733%	5	62
---	--	-------	---------	--------	---	----

CEO Michael May moved this computer training and consultation firm from the Plaza to Overland Park and focused on Microsoft products. Responding to customer needs, the company has added technical training...says "a

clear service quality difference" has been the key to growth.

6	The Corridor Group Inc.	\$411	\$3,965	866%	3	14
---	----------------------------	-------	---------	------	---	----

Using a "**virtual** company" approach, this Overland Park firm has recruited some of the country's top consultants to enhance its reputation as a leader in consulting for...

...unheard of," says CEO Joe Bisogno. "We deliver projects when the customer wants them."

14	Productivity Point International	\$337	\$1,780	428%	6	25
----	-------------------------------------	-------	---------	------	---	----

This **computer** training and consulting company maintains offices in Overland Park and Topeka and has affiliates throughout the United States and Canada. Owner Dan Cox says that...

...Moines.

17	GeoAccess Inc.	\$1,446	\$7,108	392%	11	56
----	----------------	---------	---------	------	----	----

Partners Thomas Lauerman and Stuart Bauman say they cultivated growth in their Overland Park **software** and consulting company by "providing leading-edge solutions and a high level of service" to their market niche: the managed-health-care industry.

18 Coast...event-planning business increased sales to corporate clients and picked up new referrals.

26	USConnect Kansas City	\$2,000	\$7,000	250%	24	50
----	--------------------------	---------	---------	------	----	----

This **computer** consulting firm found that a "hot" market for **computer** networking sent revenues soaring. The company provides design, support, and training assistance, including classes at its Overland Park headquarters. CEO: Steve Harmon.

27 Bank of...

...consortium of hospitals. Acting CEO: Craig Fischer.

31	APS Technologies	\$26,338	\$83,950	217%	41	210
----	------------------	----------	----------	------	----	-----

Despite little relative growth in the market for **computer** data storage and backup products, this Kansas City company was able to cash in by providing "super value and superior service and support," says President Paul Mandel. A second office is in St. Louis.

32	Medical Comm. <b>Software</b> Inc.	\$26,338	\$83,950	217%	10	40
----	---------------------------------------	----------	----------	------	----	----

State and federal requirements for nursing homes created a need for this Kansas City company's product: **computer software** that simplifies record-keeping, which, say owners Steve and Connie Blackford, helps clients give better care and get speedy reimbursement.

33	Pitch Publishing	\$574	\$1...			
----	------------------	-------	--------	--	--	--

...Michael and Gerald Watts attribute success to the high-quality reputation of their development staff and a "commitment to customer satisfaction." This Merriam company develops **computer software** and provides data-processing services. A branch is in Omaha.

35	EnviroQuest	\$737	\$2,244	204%	8	25
----	-------------	-------	---------	------	---	----

Technologies Ltd.

The petroleum industry's increased awareness of environmental regulations with regard to underground storage tanks helped fuel this business, says President Roger Sherwood. The company monitors tanks and makes **software** that lets other companies monitor their own.

36	Grafton Inc.	\$1,892	\$5,521	192%	8	23
----	--------------	---------	---------	------	---	----

Owners Richard and Carol Carroll combined their expertise...

...says

President Terry Crabtree. The company, which also leases, sells, and service new and used school buses, has offices around Missouri and in Utah.

44	<b>Web</b> Products Inc.	\$1,295	\$3,697	624%	4	18
----	--------------------------	---------	---------	------	---	----

Mike and Janet Synder's air-filter manufacturing firm scored with the introduction of "Filter Scent...Company Inc.

This Kansas City manufacturer of metal stampings, dies, and assemblies continued to reap the rewards of cultivating high-tech customers, particularly the Compaq **Computer** Corp., says CEO Michael Phelps. The company also maintains a location in Houston.

46	Data Source Inc.	\$2,700	\$7,509	178%	8	45
----	------------------	---------	---------	------	---	----

A...

...the ales and lagers it

produces. He also cites community involvement through donations of beer to charities and exceptional performance in sales and service.

48	<b>Computer</b> Technology Corp.	\$575	\$1,580	175%	7	15
----	----------------------------------	-------	---------	------	---	----

A new managed-care program called "**visual** cactus" netted sales for this business. The Prairie Village company, owned by founders John Wandless, Wayne Auer, and Scott Stillman, develops **computer software** for the burgeoning health-care industry.

49	Pet Food Savemart Inc.	\$3,054	\$8,270	171%	35	80
----	------------------------	---------	---------	------	----	----

Besides allowing animals in its stores, this...

...Owner Jeff Lucas cites a national TV ad campaign and international training capabilities for the rapid growth of his Overland Park firm. The company's **software** training is tailored for executives and features both instructor-led and multimedia classes.

54	Building Services of America Inc...	\$665	\$1,737	161%	5	8
----	-------------------------------------	-------	---------	------	---	---

...provided a competitive edge

in gaining large corporate clients for Coby Gaulien's travel agency. The Kansas City company offers discount cruises and uses a **computer** system that tracks air-fare discounts up to the time of departure.

61	Freed's Pharmacy	\$8,087	\$19,451	141%	80	145
----	------------------	---------	----------	------	----	-----

Founder Ron...gained customers

by incorporating new technology and retaining skilled employees with a benefit program. The Lee's Summit firm engineers and manufactures tools, dies, and **automated** machinery. CEO: Walter Weyhofen.

67	Warehouse One Inc.	\$2,086	\$4,732	127%	24	49
----	--------------------	---------	---------	------	----	----

The impetus for this Kansas City company's continued success...

...this Kansas City firm. President Ross Kelson also cites expansion of the company's Techmasters consulting firm subsidiary to include service to Windows, Unix, and **Internet** platforms.

69	Able Employment	\$986	\$2,234	127%	4	7
----	-----------------	-------	---------	------	---	---

Owner Ana Riojas used expertise in large-scale temporary services to branch into records management...  
...C. Ted McCarter.

71	OTR Express Inc.	\$21,993	\$49,211	124%	281	575
----	------------------	----------	----------	------	-----	-----

This Olathe long-haul trucking firm maximized revenues by using specialized **software** developed in-house to keep its fleet of more than 500 trucks traveling full and at a 97 percent on-time rate throughout 48 states...

...specializes solely in this sector," he says.

73	America-Direct	\$13,800	\$29,200	112%	18	23
----	----------------	----------	----------	------	----	----

This firm designs and installs local and regional **computer** networks in the U.S. and 46 foreign countries. CEO James. D. Worrell cites control of costs and inventory, effective cash management, and a strong...

...resulted from snowballing referrals of satisfied corporate clients.

80	CGI	\$16,700	\$33,700	102%	55	115
----	-----	----------	----------	------	----	-----

This Mission firm provides long-distance services via **digital** network in 10 Midwestern states. President David Jones says the company expanded its sales force to reach rural residential customers and targeted commercial users in...mail fund-raising and marketing firm, but new tools helped. "We achieved better results for our clients through the use of state-of-the-art **database** technology," says President Ron Benjamin.

86	MMG Worldwide	\$18,000	\$35,100	95%	17	56
----	---------------	----------	----------	-----	----	----

Additions to this Kansas City company's list of services...

...industry paid off. Co-owner Don Montague found that creating a research and strategic marketing arm as well as a presence on the World Wide **Web** led to significant new business.

87	Gallo Produce and Food Prod. Inc.	\$18,000	\$35,000	94%	42	110
----	-----------------------------------	----------	----------	-----	----	-----

Several factors spelled success at this...  
...long-distance trucking firm specializes in time-sensitive deliveries.

89	Marketing Communications Inc.	\$10,786	\$20,866	93%	113	216
----	-------------------------------	----------	----------	-----	-----	-----

An increased demand for custom **database** marketing systems helped this Lenexa business, says CEO Bob White. The company's services include laser personalized direct mail, **computer** processing, and response analysis. Another office is in Minneapolis.

90	Boice-Raidl-Rhea Architects Inc.	\$3,218	\$6,205	93%	13	26
----	----------------------------------	---------	---------	-----	----	----

Marketing this firm...

...This Overland Park firm, which buys long-distance time from other carriers, such as Sprint, and resells it, added new products, such as teleconferencing and **Internet** access. Service counted, too. "We produce a bill that's easy to understand," says President Robert Kaemmer.

98	C & R Manufacturing	\$1,561	\$2,851...			
----	---------------------	---------	------------	--	--	--

...their "just-in-time" supply capability, an outstanding customer-service record, and "zero-defects" manufacturing as factors in their growth. The Shawnee company offers precision, **computer** -controlled machining and robotic welding.

99	Heatron Inc.	\$5,175	\$9,400	82%	119	213
----	--------------	---------	---------	-----	-----	-----

This Leavenworth manufacturer of custom heating elements for medical and...

9/3,K/24 (Item 4 from file: 635)  
DIALOG(R)File 635:Business Dateline(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

0681594 96-38807  
**IDS announces version 1.0 of VRealm 3D Web browser**  
Hilgenberg, Mike  
Business Wire (San Francisco, CA, US) p1  
PUBL DATE: 960312  
WORD COUNT: 668  
DATELINE: Savannah, GA, US, South Atlantic

TEXT:

...allows the addition of and  
interaction with animation in a scene, and gives the user the  
ability to control those behaviors. For example, users can **see**  
flashing lights in a scene or rotating **wheels** on a **car** .  
- Collision Detection is a **selectable** option that prevents users  
from walking through walls, furniture and other obstacles.  
- Gravity is also user selectable and enables users to keep  
their feet on...

...company, we are committed to furthering the emerging VRML 2.0 specification," said Hilgenberg. "And the recent endorsement of the 'Moving Worlds' proposal by Apple **Computers** will strengthen the technical merits of the proposal and move it closer to widespread acceptance as the VRML 2.0 standard."

Corporate Background

Integrated Data...

...time video playback interfaces and multimedia authoring packages. IDS specializes in integrating new technologies to aid in the creation and viewing of powerful and intuitive **on -line** sites. These new technology tools will dramatically enhance the creation and delivery of information on the **Internet** .

NOTE TO EDITORS: VRealm is a trademark of IDS. Open Inventor is a trademark of Silicon Graphics Inc. Windows 95 and NT and **Internet Explorer** Browser are trademarks of Microsoft Inc. Netscape Navigator is a trademark of Netscape Communications Corp.

9/3,K/25 (Item 5 from file: 635)  
DIALOG(R)File 635:Business Dateline(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

0489756 94-43720

**Firms get break on data rates: U S West's new service expands phone line capacity**

Zeiger, Dinah

Denver Post (Denver, CO, US) sC p1

PUBL DATE: 940419

WORD COUNT: 536

DATELINE: Denver, CO, US

TEXT:

...of traffic--from 18-wheel tractor-trailer trucks, to panel vans, to family cars to motorcycles--flow at varying speeds. Each gets off at its **chosen** exit.

On the ISDN highway, instead of **vehicles** , information is digitally compressed into "packages" that run along the lanes. At varying destinations, the "packages" exit as voice signals **computer** data, graphics or pictures.

But a traffic crunch has been building up over the last five years as more computer data jockeys for position on...

15/3,K/1 (Item 1 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

01369361 00-20348

**Find out what your customers really want**

Knowles, Anne

Datamation v43n2 PP: 68-72 Feb 1997

ISSN: 0011-6963 JRNL CODE: DAT

ABSTRACT: A new class of **software** is emerging, called configurator **software**, that helps customers tell companies exactly what they want from a **Web** site. Chrysler plans to use **Selling** Chain from Trilogy Development Corp. in several hundred touchscreen kiosks on an intranet in its dealers' showrooms. Through the touchscreen kiosk, or **Web** browser, the user answers questions about desired price, color, size, and **automobile options**, and the **software** delivers a **list** of possible **models** available to them. Driving the **software** is a rules-based engine that can handle all of the conceivable if-then options given to it. Security First Technologies plans to use an application called BrightAdvisor developed by Brightware. BrightAdvisor holds an interactive dialogue with customers to help them find products and services they might want to **buy**. US Robotics Access plans to use Coincinity from Calico **Software** to **sell** high-end network hubs. According to Brian Grundei of US Robotics, Coincinity is a good **sales** tool because it tells the user why something will not work.

15/3,K/2 (Item 2 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

01331397 99-80793

**Masters of the Web**

Stein, Tom

Success v43n10 PP: 31-35 Dec 1996

ISSN: 0745-2489 JRNL CODE: SCS

WORD COUNT: 2831

...TEXT: prices, then you really have something."

(Photograph Omitted)

Captioned as: Jeff Bezos's online bookstore offers services a traditional bookstore can't.

Peter Ellis's **Web** -based company, AutoBy-Tel Corp., connects customers with more than 1,400 **car** dealers across North America. Visitors to the site are looking for a hassle-free **car -buying** experience, says Ellis. After perusing basic information about new **cars**, they fill out a form **listing** the **model**, color, and **options** they want and the price they are willing to pay. Within 48 hours, a dealer in their area calls to give them a price. According...

15/3,K/3 (Item 3 from file: 15)  
DIALOG(R)File 15:ABI/Inform(R)  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

01217777 98-67172

**This guy's history!**

Taylor, Alex III

Medical Economics v73n9 PP: 202-212 May 13, 1996

ISSN: 0025-7206 JRNL CODE: MDE

WORD COUNT: 2952

ABSTRACT: A long-overdue revolution in auto retailing has arrived. It is now possible to shop, select, and pay for a **car** without ever setting foot



File 77:Conference Papers Index 1973-2001/Sep  
     (c) 2001 Cambridge Sci Abs  
 File 35:Dissertation Abs Online 1861-2001/Jul  
     (c) 2001 ProQuest Info&Learning  
 File 583:Gale Group Globalbase(TM) 1986-2001/Sep 13  
     (c) 2001 The Gale Group  
 File 2:INSPEC 1969-2001/Sep W2  
     (c) 2001 Institution of Electrical Engineers  
 File 65:Inside Conferences 1993-2001/Sep W2  
     (c) 2001 BLDSC all rts. reserv.  
 File 233:Internet & Personal Comp. Abs. 1981-2001/Sep  
     (c) 2001 Info. Today Inc.  
 File 99:Wilson Appl. Sci & Tech Abs 1983-2001/Jul  
     (c) 2001 The HW Wilson Co.  
 File 473:FINANCIAL TIMES ABSTRACTS 1998-2001/APR 02  
     (c) 2001 THE NEW YORK TIMES  
 File 474:New York Times Abs 1969-2001/Sep 13  
     (c) 2001 The New York Times  
 File 475:Wall Street Journal Abs 1973-2001/Sep 13  
     (c) 2001 The New York Times  
 File 63:Transport Res(TRIS) 1970-2001/Aug  
     (c) fmt only 2001 Dialog Corp.  
 File 248:PIRA 1975-2001Sep W5  
     (c) 2001 Pira International

Set	Items	Description
S1	644717	VEHICLE? OR AUTOMOBILE? OR AUTOMOTIVE OR (CAR OR CARS OR V-AN OR VANS OR SUV OR SUVS)/FW OR TRUCK? ?
S2	158075	ACCESSOR? OR OPTIONS OR WHEEL? ? OR OPTIONAL(3W) (EQUIPMENT OR FEATURE? ?) OR EQUIPMENT(2W) PACKAGE??
S3	715461	PREVIEW? OR VISUAL? OR TRY?(3W)OUT OR (DISPLAY? OR SHOW? OR DEPICT?) (3N) (APPEAR? OR INSTALL? OR IMAGE? ? OR PICTURE? ? OR REPRESENTATION? OR GRAPHIC OR LOOK??) OR SEE/FW OR SEEING
S4	58662	(SELECT? OR PICK? OR LIST? OR MENU? OR PULL()DOWN OR PULLDOWN OR CHOOS? OR CHOSEN) (7N) (MAKE? ? OR VEHICLE? OR PARTS OR -WHEEL? ? OR ACCESSORIES OR MODEL??? OR STYLE)
S5	1175090	BUY? OR SELL??? OR PURCHAS? OR SALE OR SALES OR SOLD OR BOUGHT OR (SHOPPING OR VIRTUAL) (2W) (CART? ? OR KART? ?)
S6	17	S1(7N)S2 AND S3 AND S4
S7	17	RD (unique items)
S8	2	S7 AND (INTERNET? OR ONLINE OR ON()LINE OR WEB OR WEBPAGE? OR WEBSITE? OR DATABASE? OR DATA()BASE? OR SOFTWARE OR VIRTUAL? OR DIGITAL? OR NETWORK? OR PRODIGY OR MINITEL OR VIDEOTEX? OR AUTOMATE? OR ELECTRONIC?)
S9	74	S1(10N)S2 AND S4 AND S5
S10	9	S9 AND (INTERNET? OR ONLINE OR ON()LINE OR WEB OR WEBPAGE? OR COMPUTERI? OR WEBSITE? OR DATABASE? OR DATA()BASE? OR SOFTWARE OR VIRTUAL? OR DIGITAL? OR NETWORK? OR PRODIGY OR MINITEL OR VIDEOTEX? OR AUTOMATE? OR ELECTRONIC?)
S11	9	S10 NOT S7
S12	9	RD (unique items)
S13	44	S1(15N)S2 AND S3 AND (IMAGE? OR PICUTRE? OR GRAPHIC? ? OR -REPRESENTATION?)
S14	17	S13 AND (INTERNET? OR ONLINE OR ON()LINE OR WEB OR WEBPAGE? OR COMPUTERI? OR WEBSITE? OR DATABASE? OR DATA()BASE? OR SOFTWARE OR VIRTUAL? OR DIGITAL? OR NETWORK? OR PRODIGY OR MINITEL OR VIDEOTEX? OR AUTOMATE? OR ELECTRONIC?)
S15	17	S14 NOT (S6 OR S9 )
S16	17	RD (unique items)
S17	0	AU=(BERMAN, C? OR BERMAN C?) AND AU=(BRANHAM R? OR BRANHAM, R?)
S18	225	AU=(BERMAN, C? OR BERMAN C? OR BRANHAM R? OR BRANHAM, R?)
S19	0	S18 AND S1(10N)S2
?		

8/5/1 (Item 1 from file: 63)  
DIALOG(R)File 63:Transport Res(TRIS)  
(c) fmt only 2001 Dialog Corp. All rts. reserv.

00752270 DA

**TITLE: OVERVIEW OF AN HVE (HUMAN-VEHICLE-ENVIRONMENT) VEHICLE DATABASE**  
**AUTHOR(S): NEPTUNE, JA**  
**CORPORATE SOURCE: SOCIETY OF AUTOMOTIVE ENGINEERS, INC., 400 COMMONWEALTH DRIVE, WARRENDALE, PENNSYLVANIA, 15096-0001,**  
**JOURNAL: SAE PUBLICATION SP-1150. ACCIDENT RECONSTRUCTION: TECHNOLOGY AND ANIMATION VI. PROCEEDINGS OF THE INTERNATIONAL CONGRESS AND EXPOSITION, FEBRUARY 26-29, 1996, DETROIT, MICHIGAN, USA (SAE TECHNICAL PAPER 960896) Pag: 257-69**  
**PUBLICATION DATE: 19960200 PUBLICATION YEAR: 1996**  
**LANGUAGE: ENGLISH SUBFILE: IRRD (I)**  
**IRRD DOCUMENT NUMBER: 898616**  
**ISBN: 1-56091-780-6**  
**REFERENCES: 13**

**DATA SOURCE: Transport Research Laboratory (TRL)**

**ABSTRACT: This paper provides an overview of a vehicle property database that can be accessed directly by the Human-Vehicle -Environment (HVE) Vehicle Editor. Vehicles are selected from the database according to their type (passenger car, pickup truck, etc.), year, make, model, body style, engine size, and trim package. Each vehicle is then predefined by its exterior dimensions, wheel locations, center of gravity (CG) location, vehicle mass, inertial properties, drive train properties, suspension properties, tire properties, and crush stiffness coefficients. A selected vehicle may be exported into a 'physics package' (EDCRASH, EDSMAC, etc.) for use in a reconstruction or simulation. The paper also provides an overview of how the vehicle property database was created. The sources of the data used to define each of the vehicles are specified. Obtaining a complete data set for a vehicle often was not possible. Analysis was performed on the available data to determine trends in vehicle properties. These trends were used to estimate vehicle properties that were not available. The results of the analysis are included in the paper. (A) For the covering abstract of the conference see IRRD 898597.**

**DESCRIPTORS: CONFERENCE; DATA BANK; CALCULATION; DATA ACQUISITION; PROPERTIES; CAR; DELIVERY VEHICLE; LORRY; STATISTICS**

8/5/2 (Item 2 from file: 63)  
DIALOG(R)File 63:Transport Res(TRIS)  
(c) fmt only 2001 Dialog Corp. All rts. reserv.

00737416 DA

**TITLE: STRATEGIC MULTIMODAL TRANSPORT POLICY DEVELOPMENT IN A MARKET ECONOMY: THE NEW ZEALAND EXPERIENCE**  
**AUTHOR(S): TOLEMAN, RF**  
**CORPORATE SOURCE: PTRC EDUCATION AND RESEARCH SERVICES LTD, GLENTHORNE HOUSE, HAMMERSMITH GROVE, LONDON, W6 0LG, UNITED KINGDOM**  
**JOURNAL: TRANSPORT POLICY AND ITS IMPLEMENTATION. PROCEEDINGS OF SEMINAR B HELD AT THE 24TH EUROPEAN TRANSPORT FORUM, BRUNEL UNIVERSITY, ENGLAND 2-6 SEPTEMBER 1996. VOLUME P402 Pag: 17P**  
**PUBLICATION DATE: 19960000 PUBLICATION YEAR: 1996**  
**LANGUAGE: ENGLISH SUBFILE: IRRD (I)**  
**IRRD DOCUMENT NUMBER: 889152**  
**ISSN: 0266-4577 ISBN: 0-86050-292-9**  
**REFERENCES: 9**

**DATA SOURCE: Transport Research Laboratory (TRL)**

**ABSTRACT: New Zealand has adopted a national multimodal transport policy, with an overall goal of a "safe, sustainable transport system at reasonable cost", where "sustainability" includes concepts of economic, environmental and social sustainability. To achieve genuine intermodal comparison, the air, maritime and rail sectors have been completely restructured in a commercially sustainable framework. The major Land Transport Pricing Study is now examining the implications of a similar**

approach to managing the roading **network** , as a development of existing "standalone" road management structures. Using this multimodal commercial base, the Government policy is developing policy options to internalise environmental and safety costs, in order to ensure that users and operators have reliable pricing information to **make** sustainable decisions within the transport market, and **select** the best mode for any given purpose. Safety costs have now largely been internalised across the modes, while major development work on a National **Vehicle** Fleet Strategy is developing policy **options** for internalising the environmental costs of the road vehicle fleet. Similar work will follow for other modes. This paper examines the main components of multimodal transport policy in New Zealand, and the way in which long-term goals will be transmitted into a market economy. For the covering abstract, **see** IRRD 889150.

DESCRIPTORS: TRANSPORT; POLICY; GOVERNMENT (NATIONAL); NEW ZEALAND;  
DEREGULATION; PUBLIC TRANSPORT; AIR; SEA; RAIL BOUND TRANSPORT; ROAD  
**NETWORK** ; FREIGHT TRANSPORT; COST

?

12/5/1 (Item 1 from file: 583)  
DIALOG(R)File 583:Gale Group Globalbase(TM)  
(c) 2001 The Gale Group. All rts. reserv.

09505645

Set na krupnogo/

RUSSIA: WHAT ATTRACT E-COMMERCE CONSUMERS  
Kommersant-Daily (XFL) 13 Apr 2001 p.8  
Language: RUSSIAN

As reported by the Russian **Internet** -catalogue Podberi.ru, visitors of domestic **Internet** e-commerce market places are interested in the following consumer goods and services: Mobile services 25% Domestic appliances 22% TV-sets and video equipment 20% Computers and office equipment 11% Audio equipment 10% In- **car** entertainment and car **accessories** 8% Photo 4% 51% of consumers **choose** 24 inch TV-sets, and 40% prefer to by **digital** MP-3 audio players.

PRODUCT: Computers & Auxiliary Equip (3573); Cellular Radio Equipment (3662CE); Consumer **Electronics** (3650); Database Vendors (7375); Household Appliances (3630);  
EVENT: **Sales** & Consumption (65);  
COUNTRY: Russia (6USSRU);

12/5/2 (Item 2 from file: 583)  
DIALOG(R)File 583:Gale Group Globalbase(TM)  
(c) 2001 The Gale Group. All rts. reserv.

09393633

**Buy @Fiat**

ITALY: FIAT TO **SELL** CARS VIA E-COMMERCE  
Info & Tech (AAO) Oct 2000 p.12  
Language: ITALIAN

Italian car maker Fiat Auto has recently launched the service '**Buy @Fiat**', in order to **sell** via **Internet** cars under the brands Lancia and Alfa Romeo ('www. **buy** @fiat.com'). Customers could **select car model** and **options** and have an appointment with the closest Fiat's concessionaire to acquire the car. Microsoft has provided Fiat Auto with the technologic platform 'Car Point'; Grey Interactive Italia, with the **digital** identity and with the marketing communication strategy; and Andersen Consulting, with portal 'value proposition'.

COMPANY: ANDERSEN CONSULTING; GREY INTERACTIVE ITALIA; MICROSOFT; FIAT AUTO

PRODUCT: Cars (3711CA); Motor Vehicles & Parts (3710);  
EVENT: Company Formation (12); Company Formation (14); Marketing Procedures (24);  
COUNTRY: Italy (4ITA);

12/5/3 (Item 3 from file: 583)  
DIALOG(R)File 583:Gale Group Globalbase(TM)  
(c) 2001 The Gale Group. All rts. reserv.

09365290

Car makers slow to tap the **Internet**

THAILAND: CAR MAKERS AND THEIR **INTERNET** PLANS  
Bangkok Post (XBN) 15 Sep 2000 Online  
Language: ENGLISH

Vehicle concerns in Thailand need at least up to 2005 to implement plans which will harvest the power of the **Internet**. Their immediate **Internet** plans will be hampered by the low **Internet** usage in the country, financial constraints and lack of government support for e-commerce

endeavours. So far, only Ford has offered an **Internet** -based strategy, by launching FordDirect.com. Via the site, Ford **buyers** can **choose** the colour and **options** for their new **vehicle**. Honda (Thailand), meanwhile, is looking to start a business-to-business e-commerce site by 2001. A feasibility study is presently being carried out for the purpose.

COMPANY: HONDA; FORD; **INTERNET**

PRODUCT: Cars (3711CA); Motor Vehicles & Parts (3710);

EVENT: General Management Services (26); Market & Industry News (60);  
Capital Expenditure (43); Use of Materials & Supplies (46);

COUNTRY: Thailand (9THA);

12/5/4 (Item 4 from file: 583)

DIALOG(R)File 583:Gale Group Globalbase(TM)

(c) 2001 The Gale Group. All rts. reserv.

09141277

Ford Lio Ho to **sell** cars via the **Internet**

TAIWAN: FORD TO **SELL** CARS ON **INTERNET**

China Economic News (AMH) 05 Aug 1999

Language: ENGLISH

Ford Lio Ho Co will **sell** its **automobiles** and auto **accessories** on **Internet**. To avoid conflict of interest, it will **select** a car **model** which appeals to young drivers. Unlike General Motors Taiwan's on -line **sale** service which require contact with **sales** representatives, the car **sales** can be completely settled on the **Internet**. \*

COMPANY: GENERAL MOTORS; FORD LIO HO

PRODUCT: Cars (3711CA); Motor Vehicles & Parts (3710); **Database** Vendors (7375);

EVENT: Product Design & Development (33);

COUNTRY: Taiwan (9TAI);

12/5/5 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

6163142

**Title:** Software **options** [financial planning]

**Author(s):** Anderson, G.

**Journal:** CA Magazine vol.132, no.1 p.30-4, 37, 39

**Publisher:** Canadian Inst. Chartered Accountants,

**Publication Date:** Jan.-Feb. 1999 **Country of Publication:** Canada

**CODEN:** CAMADJ **ISSN:** 0317-6878

**SICI:** 0317-6878(199901/02)132:1L.30:SOFP;1-5

**Material Identity Number:** C176-1999-001

**Language:** English **Document Type:** Journal Paper (JP)

**Treatment:** Economic aspects (E)

**Abstract:** The market offers some very good **software** packages for financial planning. But there isn't one optimum product for all users, so you won't find in this article one that is ranked as the best. The tradeoffs among the **software** packages' various strengths include ease of use, reporting capabilities, flexibility, thoroughness, connectivity with other applications, and system constraints. The decision to **buy** a financial planning program is not as simple as making an Excel vs. Lotus **purchase** decision, since both those products cover the basics in a similar fashion. It's more akin to **buying** an **automobile**, where **models** and **selected options** can be geared to personal preferences. Also compounding the decision is that, unlike with Excel and Lotus, with which files can be transferred back and forth, client files are not transferable between the various programs, so you will want to be fairly confident in your selection the first time around. Finally, the **software** vendors generally acknowledge that there remains a good deal of room for product

improvement. The good news is that revised versions are significant, and they are coming out fast and furious. (0 Refs)

Subfile: D

Descriptors: corporate modelling; **software** packages; **software** selection

Identifiers: **software** packages; financial planning; reporting capabilities; system constraints; connectivity; client files; **software** vendors

Class Codes: D2050 (Financial applications); D5000 (Office automation - computing)

Copyright 1999, IEE

12/5/6 (Item 1 from file: 233)

DIALOG(R)File 233:Internet & Personal Comp. Abs.

(c) 2001 Info. Today Inc. All rts. reserv.

00393208 95PM08-052

**Popular Mechanics New Car Buyers Guide**

White, Ron

PC/Computing , August 1, 1995 , v8 n8 pl67, 1 Page(s)

ISSN: 0899-1847

Company Name: Books That Work

Product Name: Popular Mechanics New Car **Buyers** Guide

Languages: English

Document Type: Software Review

Grade (of Product Reviewed): B

Hardware/Software Compatibility: IBM PC Compatible

Geographic Location: United States

Presents a favorable review of Popular Mechanics New Car **Buyers** Guide (\$30), a **database** of automobile information from Books That Work (800, 415). The user selects the type of **car** desired and specifies price, mileage, safety features, and **options** . The program then **lists vehicles** that meet these specifications along with a write-up and photograph. It can display the cars in different colors. (djd)

Descriptors: Automobile; **Software** Review; CD-ROM; Consumer Information

Identifiers: Popular Mechanics New Car **Buyers** Guide; Books That Work

12/5/7 (Item 1 from file: 99)

DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

(c) 2001 The HW Wilson Co. All rts. reserv.

1848520 H.W. WILSON RECORD NUMBER: BAST99016731

Buying **fleet** vehicles: options **are standard**

Black, Tom;

American City & County v. 114 no3 (Mar. '99) p. 38+

DOCUMENT TYPE: Feature Article ISSN: 0149-337X LANGUAGE: English

RECORD STATUS: Corrected or revised record

ABSTRACT: The writer discusses the choices facing local government fleet managers in terms of what to **buy** and how to **buy** it. Selection criteria include job suitability, repair record, serviceability, ease of repairs, safety record, warranty program, and delivery time. Several companies and organizations provide fleet management **software** that helps to develop vehicle specifications. Comparisons are made between **buying** new and used **vehicles** , and bid **selection** strategies are discussed.

DESCRIPTORS: Motor vehicle fleets--Management;

12/5/8 (Item 2 from file: 99)

DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

(c) 2001 The HW Wilson Co. All rts. reserv.

1333394 H.W. WILSON RECORD NUMBER: BAST96009848

Picking and **transporting small** parts

Mulcahy, David E;  
Plant Engineering v. 50 (Jan. '96) p. 68-70  
DOCUMENT TYPE: Feature Article ISSN: 0032-082X LANGUAGE: English  
RECORD STATUS: Corrected or revised record

ABSTRACT: The walking and riding options used for **picking** and transporting small **parts** are described. Two other options are available, whereby pick position is transferred to the pick station or an automatic picking machine transports stock keeping units to the check or pack station. The walk or ride option is, however, the most common and most economical. The methods available for the walking option consist of aprons or pouches, 4-wheel push carts with shelves or containers and pallet **trucks**, **shopping carts**, top-attached rolling ladders, trolleys with a basket, and pick conveyors. The methods available for the riding option are powered burden carriers, electric powered pallet trucks and tow tractors with a train of carts, electric pick carts, electric powered data mobile, lift trucks, and pick cars and decombe trucks. The method chosen should meet with the specific plant requirements.

DESCRIPTORS: Warehouses--Equipment; Stores systems; **Automated** storage and retrieval systems;

12/5/9 (Item 1 from file: 63)  
DIALOG(R)File 63:Transport Res(TRIS)  
(c) fmt only 2001 Dialog Corp. All rts. reserv.

00770809 DA

**TITLE: COMMUNITY TRANSPORTATION '99 BUYERS GUIDE**

CORPORATE SOURCE: Community Transportation Association of America, 1341 G Street, NW, Suite 600, Washington, DC, 20005,

JOURNAL: Community Transportation Pag: 88p

PUBLICATION DATE: 19990000 PUBLICATION YEAR: 1999

LANGUAGE: English SUBFILE: UMTRIS (U)

ISSN: 08954437

AVAILABILITY: Community Transportation Association of America; 1341 G Street, NW, Suite 600 ; Washington; DC ; 20005

ORDER NUMBER: N/A

ABSTRACT: This **Buyers** Guide provides information in the following categories: **vehicles** ; equipment and **accessories** ; **software** ; insurance; and, consultants. The detailed index **lists** products and services, then lists appropriate suppliers, listed alphabetically along with the corresponding page numbers.

DESCRIPTORS: **PURCHASING** ; **SUPPLIERS**; **PROCUREMENT**; **PUBLIC TRANSIT**; **VEHICLE ACCESSORIES** ; **VEHICLES** ; **VEHICLES AND EQUIPMENT** ; **SOFTWARE** ; **INSURANCE**; **CONSULTANTS**; **CONTRACTORS**; **DIRECTORIES**

SUBJECT HEADING: U28 MARKETING

?

16/3,K/1 (Item 1 from file: 35)  
DIALOG(R)File 35:Dissertation Abs Online  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

01619975 ORDER NO: AAD98-15715

**SIGNATURE DETECTION, RECOGNITION, AND CLASSIFICATION USING WAVELETS IN SIGNAL AND IMAGE PROCESSING**

Author: CHOE, HOWARD CHIKWAN

Degree: PH.D.

Year: 1997

Corporate Source/Institution: TEXAS A&M UNIVERSITY (0803)

Source: VOLUME 58/11-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 6121. 188 PAGES

**SIGNATURE DETECTION, RECOGNITION, AND CLASSIFICATION USING WAVELETS IN SIGNAL AND IMAGE PROCESSING**

Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL

The introduction of wavelets in signal and **image** processing has provided a new tool to create innovative and novel methods for solving problems in such areas as data compression, signal analysis, and noise...

...signatures that are important to the military, industry, and medicine. This dissertation presents three different but related topics: (1) 1-D two-class military ground **vehicle** acoustics recognition; (2) 1-D multiple-class railroad **wheel** -bearing fault acoustic detection and identification; and (3) 2-D signal abnormality detection, such as microcalcifications in mammograms. In the two-class problem, a discrete...

...to simulate cochlea processing: the fast Fourier transform, the continuous wavelet transform, the discrete wavelet transform, and the wavelet packet. The designed wavelet-based neural **network** provides reliable and highly accurate fault identification. In the 2-D application in medicine, an innovative detection algorithm that takes advantages of wavelet multiresolution analysis and synthesis is developed to assist radiologists looking for clusters of microcalcifications in digitized mammograms. Microcalcification regions may not be detectable by **visual** inspection or other detection techniques because of the inherent complexity revealed in mammograms and surrounding false positives. The developed algorithm successfully unmask the complexity and...

16/3,K/2 (Item 2 from file: 35)  
DIALOG(R)File 35:Dissertation Abs Online  
(c) 2001 ProQuest Info&Learning. All rts. reserv.

01184306 ORDER NO: AAD91-33961

**A REAL-TIME VEHICLE AND LANE FOLLOWING VISION SYSTEM FOR AUTONOMOUS LAND VEHICLES ( VISUAL CONTROL, VEHICLE FOLLOWING)**

Author: LEE, JUCK SIK

Degree: PH.D.

Year: 1991

Corporate Source/Institution: TEXAS A&M UNIVERSITY (0803)

Source: VOLUME 52/06-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 3211. 127 PAGES

**A REAL-TIME VEHICLE AND LANE FOLLOWING VISION SYSTEM FOR AUTONOMOUS LAND VEHICLES ( VISUAL CONTROL, VEHICLE FOLLOWING)**

Descriptors: ENGINEERING, ELECTRONICS AND ELECTRICAL; ENGINEERING, AUTOMOTIVE

There is a need for the development of **visual** control systems in order to achieve automatic vehicular operations. An original approach to autonomous vehicle-following is developed based upon a **visual** input system. The vehicle-following problem includes automatic steering and speed control of a **visually** guided vehicle following the motion of a lead vehicle. The following vehicle is required to travel smoothly while maintaining a safety distance from the lead vehicle. The developed **visual**



control system consists of a stereo camera setup, an **image** processor, a driving command generator, and a microprocessor controller. The stereo cameras provide a pair of stereo **images** which are processed by the **image** processor in order to obtain the range and heading angle of the lead **vehicle**. Based on this information, the driving command module generates appropriate steering **wheel** and speed commands which are executed by the microprocessor controller. This procedure therefore encompasses a command structure to physically move the vehicle along a path...

...In addition, a second initiative of lane following was investigated in this research. Lane following requires the extraction of the lane boundaries from a captured **image**, the estimation of the vehicle's orientation with respect to the lane, and the generation of appropriate driving commands for guiding or navigating within the lane structure. Simulation results using real **images** are presented.

16/3,K/3 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

6978058 INSPEC Abstract Number: B2001-08-6140-048, C2001-08-3390C-040

**Title:** Visual -servoing and navigation of mobile robots for target tracking applications

Author(s): Rangavajhala, S.; Shirkhodaie, A.

Author Affiliation: Dept. of Mech. Eng., Tennessee State Univ., Nashville, TN, USA

Conference Title: Proceedings of the 33rd Southeastern Symposium on System Theory (Cat. No.01EX460) p.257-62

Publisher: IEEE, Piscataway, NJ, USA

Publication Date: 2001 Country of Publication: USA 430 pp.

ISBN: 0 7803 6661 1 Material Identity Number: XX-2001-00801

U.S. Copyright Clearance Center Code: 0 7803 6661 1/2001/\$10.00

Conference Title: Proceedings of the 33rd Southeastern Symposium on System Theory

Conference Sponsor: Russ College of Eng. & Technol.; School of Electr. Eng. & Comput. Sci.; IEEE Controls Soc

Conference Date: 18-20 March 2001 Conference Location: Athens, OH, USA

Language: English

Subfile: B C

Copyright 2001, IEE

**Title:** Visual -servoing and navigation of mobile robots for target tracking applications

**Abstract:** In this paper, we address technical issues involved with development of algorithms and control strategies for vision-based navigation and **visual** servoing of mobile robots for target tracking applications. The proposed procedural approach includes initial camera calibration, **image** acquisition, feature extraction, features decision-making. The paper discusses also some of the challenges associated with capturing steady **images** of moving targets and stabilization of **image** features. The paper presents our approach to solve the above problems for robust vision-based navigation of mobile robots. The proposed technique has been implemented on a mobile robotic vehicle called "TSU TIGER". TIGER is an all-terrain, four wheeled, differentially driven robotic **vehicle** with four-wheel independent suspension system and has a variety of navigational sensors. In this paper the implementation issues regarding the proposed methodology on TIGER are discussed.

Descriptors: **computerised** navigation...

...**image** processing

Identifiers: **visual** -servoing...

...**image** acquisition

16/3,K/4 (Item 2 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

6163382 INSPEC Abstract Number: B1999-03-7620-007, C1999-03-7460-028

**Title: Simple force feedback for small virtual environments**

Author(s): Schiefele, J.; Albert, O.; van Lier, V.; Huschka, C.

Author Affiliation: Inst. of Flight Mech. & Control, Tech. Univ. Darmstadt, Germany

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA)

vol.3367 p.100-10

Publisher: SPIE-Int. Soc. Opt. Eng,

Publication Date: 1998 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

SICI: 0277-786X(1998)3367L:100:SFFS;1-6

Material Identity Number: C574-1998-207

U.S. Copyright Clearance Center Code: 0277-786X/98/\$10.00

Conference Title: Modeling and Simulating Sensory Response for Real and Virtual Environments

Conference Sponsor: SPIE

Conference Date: 16 April 1998 Conference Location: Orlando, FL, USA

Language: English

Subfile: B C

Copyright 1999, IEE

**Title: Simple force feedback for small virtual environments**

...Abstract: training simulators only the cockpit and all its interaction devices exist as physical mockups. All other elements such as flight behavior, motion, sound, and the **visual** system are **virtual**. As an extension to this approach "**Virtual Flight Simulation**" tries to subsidize the cockpit mockup by a 3D computer generated **image**. The complete cockpit including the exterior view is displayed on a Head Mounted Display (HMD), a BOOM, or a Cave Animated **Virtual Environment**. In most applications a dataglove or **virtual** pointers are used as input devices. A basic problem of such a **Virtual Cockpit** simulation is missing force feedback. A pilot cannot touch and feel buttons, knobs, dials, etc. he tries to manipulate. As a result, it is very difficult to generate realistic inputs into VC systems. "Seating Bucks" are used in **automotive** industry to overcome the problem of missing force feedback. Only a seat, steering **wheel**, pedal, stick shift, and radio panel are physically available. All other geometry is **virtual** and therefore untouchable but visible in the output device. In extension to this concept a "Seating Buck" for commercial transport aircraft cockpits was developed. Pilot...

... performance with the developed Seating Buck, a test series was conducted. Users press buttons, adapt dials, and turn knobs. In a first test, a complete **virtual** environment was used. The second setting had a plastic panel replacing all input devices. Finally, as cross reference the participants had to repeat the test...

...Descriptors: **virtual** reality

...Identifiers: **virtual** environments...

...3D computer generated **image** ; ...

...**virtual** cockpit simulation

16/3,K/5 (Item 3 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

5810716 INSPEC Abstract Number: B9803-6140C-054, C9803-1250-035

**Title: Machine vision-based alignment: space to factory to garage**

Author(s): Christian, D.J.; Shroff, H.

Author Affiliation: Snap-On Diagnostics, San Jose, CA, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA)

vol.3205 p.218-25

Publisher: SPIE-Int. Soc. Opt. Eng,

Publication Date: 1997 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

SICI: 0277-786X(1997)3205L.218:MVBA;1-Y  
Material Identity Number: C574-97294  
U.S. Copyright Clearance Center Code: 0277-786X/97/\$10.00  
Conference Title: Machine Vision Applications, Architectures, and Systems  
Integration VI  
Conference Sponsor: SPIE  
Conference Date: 15-16 Oct. 1997      Conference Location: Pittsburgh, PA,  
USA  
Language: English  
Subfile: B C  
Copyright 1998, IEE

...Abstract: but "alignment" is arguably the most useful application class. Alignment is the task of "finding the position of a landmark or work piece in the **electronic image**" so that it can be tracked, moved, followed, or otherwise adjusted. Many early alignment applications were in aerospace and defense. The **visual** 'landmark' they used was a star, a constellation or a laser-designated target. These applications made possible highly stable satellite platforms, accurate antenna aiming, and...

... were extensions of traditional gunsighting techniques and nautical navigation. In factory automation, vision-based alignment continues to play a key role in the semiconductor and **electronics** manufacturing revolution. Robotic machinery requires precision guidance to mate work pieces (dice and printed wiring boards) with process machinery (bonders, saws, and robots). Machine vision...

... this possible, and new developments continue to improve precision and productivity in this area. New alignment applications are emerging in unexpected areas, such as the **automotive** service garage. This paper describes a new **automotive** service application for **vehicle wheel** alignment. Two machine vision cameras measure the position and attitude of four **wheel** -mounted targets as the **vehicle** rolls and is steered. Six axes of rotation are used to define locations and orientations of the axles in three dimensional space. Their values are...

...Identifiers: **electronic image** ;

16/3,K/6      (Item 4 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

5121159      INSPEC Abstract Number: B9601-6260-023, C9601-3390C-016

**Title: Teleoperation of an experimental mobile vehicle via a free space optical laser line of sight communication link for use in nuclear power plant environments**

Author(s): Girach, K.; Bouazza-Marouf, K.; Kerr, D.; Hewit, J.R.

Author Affiliation: Dept. of Mech. Eng., Loughborough Univ. of Technol.,  
UK

Journal: Proceedings of the SPIE - The International Society for Optical  
Engineering Conference Title: Proc. SPIE - Int. Soc. Opt. Eng. (USA)  
vol.2247      p.48-59

Publication Date: 1994      Country of Publication: USA

CODEN: PSISDG      ISSN: 0277-786X

U.S. Copyright Clearance Center Code: 0 8194 1553 7/94/\$6.00

Conference Title: Sensors and Control for Automation

Conference Sponsor: SPIE; Comm. Eur. Communities; EOS

Conference Date: 22-24 June 1994      Conference Location: Frankfurt,  
Germany

Language: English

Subfile: B C

Copyright 1995, IEE

...Abstract: mobile vehicle. This paper presents a novel two ended optical tracking system utilising the communication laser beams and photodetectors. The mobile robot is a six **wheel** drive **vehicle** with a manipulator arm which can operate in a variety of terrain. The operator obtains **visual** feedback information from cameras placed on the vehicle. From this information, the speed and direction of the vehicle can be controlled from a joystick panel. We describe the investigations carried

out for the communication of analogue video and **digital** data signals over the laser link for speed and direction control.

Descriptors: CCD **image** sensors...

...Identifiers: six **wheel** drive **vehicle** ; ...

...**visual** feedback information...

...**digital** data signals

16/3,K/7 (Item 5 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

4722032 INSPEC Abstract Number: C9409-3360B-003

**Title: LaneTrak: a vision-based automatic vehicle steering system**

Author(s): Altan, O.D.; Craig, D.B.; Litkouhi, B.B.; Oberdier, L.M.

Author Affiliation: Dept. of Vehicle Syst. Res., General Motors Res. & Environmental Staff, Warren, MI, USA

Journal: Proceedings of the SPIE - The International Society for Optical Engineering vol.1831 p.468-78

Publication Date: 1993 Country of Publication: USA

CODEN: PSISDG ISSN: 0277-786X

U.S. Copyright Clearance Center Code: 0 8194 1032 2/93/\$4.00

Conference Title: Mobile Robots VII

Conference Sponsor: SPIE

Conference Date: 18-20 Nov. 1992 Conference Location: Boston, MA, USA

Language: English

Subfile: C

...Abstract: it in its lane on a limited-access freeway is described. This system, LaneTrak, uses a forward looking monochrome CCD camera and a real-time **image** processing system on-board the vehicle. The **image** processing system identifies the lane boundaries based on lane markers and road edges. A pair of Kalman filters uses this information combined with vehicle dynamics sensor data to determine the vehicle angular heading error, lateral offset from the center of the road, and the lane curvature ahead. A **preview** proportional-integral control system determines the desired steering angle to keep the vehicle in the lane. The steering angle is then passed to another controller which activates an electric steering mechanism that positions the front **wheels** of the **vehicle**. The authors verified the full operation of LaneTrak with computer simulation before the system was designed and used a driving simulator to evaluate drivers' reaction...

...Descriptors: CCD **image** sensors...

...**computerised** navigation...

...**image** recognition

...Identifiers: real-time **image** processing system...

...**preview** proportional-integral control system

16/3,K/8 (Item 6 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

04063126 INSPEC Abstract Number: B9202-8520B-058, C9202-3360B-036

**Title: Visual control of an autonomous vehicle (BART)-the vehicle-following problem**

Author(s): Kehtarnavaz, N.; Griswold, N.C.; Lee, J.S.

Author Affiliation: Dept. of Electr. Eng., Texas A&M Univ., College Station, TX, USA

Journal: IEEE Transactions on Vehicular Technology vol.40, no.3 p. 654-62

Publication Date: Aug. 1991 Country of Publication: USA

CODEN: ITVTAB ISSN: 0018-9545

**Title:** Visual control of an autonomous vehicle (BART)-the vehicle-following problem

...Abstract: authors consider the problem of vehicle-following including automatic steering and speed control of an autonomous vehicle following the motion of a lead vehicle. A **visual** control system for vehicle-following is presented. The system consists of the following modules: **image** processing, recursive filtering, and a driving command generator. First, the range and heading signal of the lead vehicle are obtained by **visually** identifying a unique tracking feature on the lead **vehicle**. Based upon this information, appropriate steering **wheel** and speed commands for driving are generated, which are then downloaded and executed on a microprocessor controller. The **visual** control system was tested on BART (Binocular Autonomous Research Team), a testbed vehicle developed at Texas A&M University for autonomous mobility. Successful full-scale...

Descriptors: automotive **electronics** ;

...Identifiers: **visual** control system...

...**image** processing

16/3,K/9 (Item 7 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

03035612 INSPEC Abstract Number: B88004300, C88001756

**Title:** Measurement control system for evaluation test of 4WD vehicle automotive transmission

Author(s): Yamamoto, K.; Kurihara, Y.; Kawabata, Y.

Author Affiliation: Div. of Electron., Meas. Matsushita Commun. Ind. Co. Ltd., Osaka, Japan

Journal: National Technical Report vol.33, no.4 p.104-14

Publication Date: Aug. 1987 Country of Publication: Japan

CODEN: NTROAV ISSN: 0028-0291

Language: Japanese

Subfile: B C

Abstract: A measurement control system has been developed for the evaluation test of the **automotive** transmission of 4- **wheel** -drive **vehicles**. The system, which is based on the conventional built-in system, improves the flexibility of the entire system, and realizes multifunctions, distribution of the functions...

... developed for the system by a combination of a controller and a 14-inch color CRT display improves and expands the functions for high-speed **graphic** **displays** and dialog format setting. In addition, the development of an actuator adopting an AC servomotor makes possible compact size, light weight and high-speed processing...

...Descriptors: **computerised** control

...Identifiers: 4-**wheel** -drive **vehicles** ; ...

...**graphic** **displays** ;

16/3,K/10 (Item 8 from file: 2)

DIALOG(R)File 2:INSPEC

(c) 2001 Institution of Electrical Engineers. All rts. reserv.

00860054 INSPEC Abstract Number: C76004910

**Title:** Real time software for 3-d display

Author(s): Fryer, R.

Author Affiliation: Naval Weapons Center, China Lake, CA, USA

Conference Title: Info-Mania 75. (Digest of papers only received) p. 37-40

Publisher: Soc. Information Display, Los Angeles, CA, USA

Publication Date: 1975 Country of Publication: USA 53 pp.  
Conference Date: 6 Nov. 1975 Conference Location: Culver City, CA, USA  
Language: English  
Subfile: C

**Title: Real time software for 3-d display**

**Abstract:** In the design of real time man in the loop simulation of **vehicles** (especially aircraft) the **options** for **visual** feedback have been few. For large systems, hardware **image** simulators have been developed. For projects with a more restricted budget, a hardware transformation system has been applied. For a large number of projects and applications even this approach is unavailable; these systems will generally resort to analog meters, or a **representation** of them on a CRT display. General purpose computer solutions for **visual** cue generation (transformation/projection/windowing) have been demonstrated. However, rapid **image** update rates required assembly language techniques with integer scaling. The advent of fast FORTRAN minicomputers and some relatively efficient algorithms for 3-D to 2-D projection, windowing, and grid generation opens up this area of **visual** simulation to new applications such as RPV control submarine/aircraft cockpit instrumentation, and low cost pilot trainers.

**Descriptors:** computer **graphics** ; **digital** simulation

**Identifiers:** real time **software** ;

16/3,K/11 (Item 1 from file: 233)

DIALOG(R)File 233:Internet & Personal Comp. Abs.

(c) 2001 Info. Today Inc. All rts. reserv.

00426709 96CZ06-001

**Rev it up -- We pit professional racers against our virtual speedway champ. See who takes the checkered flag**

Goble, Gord

Computer Life , June 1, 1996 , v3 n6 p56-63, 6 Page(s)

ISSN: 1076-9862

Company Name: Sierra On Line ; Electronic Arts

Product Name: IndyCar Racing II; Need for Speed

**Rev it up -- We pit professional racers against our virtual speedway champ. See who takes the checkered flag**

Company Name: Sierra On Line ; Electronic Arts

... games for Windows and DOS. Includes very favorable comparative reviews and ratings (out of five stars) of two programs: IndyCar Racing II (\$50) from Sierra On - Line (800, 617) - five; and Need for Speed (\$59.95) from **Electronic** Arts (800, 415) - five. Says IndyCar Racing II has extremely realistic **car** handling with skittish motion, rear-wheel power delivery, exceptionally quick acceleration, and precise braking capabilities. It features several **car** -setup **options** and adjustments, in addition to high-resolution 640-by-480-pixel screens, spectacular replays, and smooth **graphics** . Warns, though, that a high-quality steering wheel-and-pedal combination is the only way to successfully traverse the program's difficult courses. Says Need...

**Descriptors:** Games; Multimedia; Vendor Guide; **Software** Review; Hardware Review; Entertainment

**Identifiers:** IndyCar Racing II; Need for Speed; Sierra On -Line ; **Electronic** Arts

16/3,K/12 (Item 1 from file: 99)

DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs

(c) 2001 The HW Wilson Co. All rts. reserv.

1865036 H.W. WILSON RECORD NUMBER: BAST99026756

**Ohio's Office of Traffic Engineering makes effective use of customized vans**

Richardson, Wallace;

Public Works v. 130 no4 (Apr. '99) p. 60-2

DOCUMENT TYPE: Feature Article ISSN: 0033-3840

ABSTRACT: The Ohio Department of Transportation received its latest "time-lapse" photographic data collection **van** in December 1998. The **vehicle** is a 4-wheel drive Suburban with a diesel engine that runs the generator to power the video and air-conditioning equipment. The 2 **digital** cameras can operate in all weather conditions, 24 hours per day, and can be put up to 45 ft in the air. Both **pictures** are **shown** simultaneously as split-screen **image** on video; the video product is compatible with any video cassette recorder.

16/3,K/13 (Item 1 from file: 63)  
DIALOG(R)File 63:Transport Res(TRIS)  
(c) fmt only 2001 Dialog Corp. All rts. reserv.

00714417 DA

**TITLE: A HIGH SPEED ROAD CONDITION DATA COLLECTION SYSTEM FOR LOW COST ROAD S**

AUTHOR(S): TACHTSI, VT; SNAITH, MS

CORPORATE SOURCE: STEERING COMMITTEE CAPSA '94, PO BOX 6946, ROGGEBAAI, SOUTH AFRICA

JOURNAL: PROCEEDINGS OF THE 6TH CONFERENCE ON ASPHALT PAVEMENTS FOR SOUTHERN AFRICA, CAPSA '94, HELD CAPE TOWN OCTOBER 1994. VOL 2 Pag: IV164-IV175

PUBLICATION DATE: 19940000 PUBLICATION YEAR: 1994

LANGUAGE: ENGLISH SUBFILE: IRRD (I)

IRRD DOCUMENT NUMBER: 873988

REFERENCES: 8

DATA SOURCE: Transport Research Laboratory (TRL)

...ABSTRACT: for road condition data collection has been devised suitable for use on both heavily trafficked and low cost roads. It is built about a **data base** mounted in a laptop computer which is situated in the survey vehicle. To date road roughness in terms of IRI may be measured automatically with a **Vehicle** Mounted Bump Integrator. In addition near side **wheel** path rutting may be assessed at normal traffic speeds, to within 2 mm, by the use of cheap ultrasonic transducers. A crack assessment module is...

...use with both serial and parallel computing architectures are available and have been widely used with analysis times of less than a second for each **image** of the road's surface obtained. (A) For the covering abstract of the conference see IRRD 873950.

DESCRIPTORS: CONFERENCE; HIGHWAY; SURFACE; EVENNESS; RUTTING (WHEEL); PAVEMENT MANAGEMENT SYSTEM; DATA ACQUISITION; **IMAGE** PROCESSING; LOW COST ROAD; EQUIPMENT

16/3,K/14 (Item 2 from file: 63)  
DIALOG(R)File 63:Transport Res(TRIS)  
(c) fmt only 2001 Dialog Corp. All rts. reserv.

00681193 DA

**TITLE: ADAPTIVE AND SEMI-ACTIVE SHOCK ABSORBERS BASED ON REAL-TIME PARAMETER ESTIMATION**

AUTHOR(S): BUSSHARDT, J; ISERMANN, R

CORPORATE SOURCE: INSTITUTION OF MECHANICAL ENGINEERS, 1 BIRDCAGE WALK, LONDON, SW1H 9JJ, UNITED KINGDOM

JOURNAL: XXIV FISITA CONGRESS. 7-11 JUNE 1992, LONDON. HELD AT THE AUTOMOTIVE TECHNOLOGY SERVING SOCIETY. TECHNICAL PAPERS. TOTAL VEHICLE DYNAMICS . VOLUME 2. (IMECHE NO. C389/352 AND FISITA NO. 925091)

Pag: 129-39

PUBLICATION DATE: 19920000 PUBLICATION YEAR: 1992

LANGUAGE: ENGLISH SUBFILE: IRRD (I)

IRRD DOCUMENT NUMBER: 870321

ISBN: 0-85298-834-6

REFERENCES: 20

DATA SOURCE: Transport Research Laboratory (TRL)

...ABSTRACT: stand was constructed for investigating the vertical dynamic behaviour of vehicles. Unknown model parameters, such as damping coefficient, stiffness, load and friction, were estimated on line in real time. Two methods were applied: (1) in the time domain; and (2) in the frequency domain. Both methods used the continuous time **representation**, given by the force balances of the body and the wheel. These methods were then used to realise adaptive and semi-active suspension control...

...methods described here can be used on-board, as described in the paper, or for developing or testing suspension systems. For the covering abstract see IRRD 870290.

DESCRIPTORS: CONFERENCE; **VEHICLE**; DESIGN (OVERALL DESIGN); SUSPENSION (VEH); DAMPING; TYRE; MATHEMATICAL MODEL; TEST METHOD; FREQUENCY; CONTROL; BODY (**CAR**); **WHEEL**

16/3,K/15 (Item 3 from file: 63)  
DIALOG(R)File 63:Transport Res(TRIS)  
(c) fmt only 2001 Dialog Corp. All rts. reserv.

00483130 DA

TITLE: AN INTERACTIVE HOUSEHOLD INTERVIEW METHOD TO STUDY BUS PROVISION POLICIES --TRANSPORTATION PLANNING METHODS. PROCEEDINGS OF SEMINAR C HELD AT THE PTRC SUMMER ANNUAL MEETING, BATH UNIVERSITY ENGLAND, 7-11 SEPTEMBER 1987, VOLUME P290

AUTHOR(S): Bradley, M; Jones, P; Ampt, E

CORPORATE SOURCE: PTRC EDUCATION & RESEARCH SERVICES LIMITED, 110 STRAND, London, United Kingdom

Pag: 163-78

PUBLICATION DATE: 19870000 PUBLICATION YEAR: 1987

LANGUAGE: English SUBFILE: HRIS; IRRD (H 8902; I)

ISSN: 02664569 ISBN: 0-86050-175-2

DATA SOURCE: Transport and Road Research Laboratory

ABSTRACT: The paper describes a stated preference survey method for bus passengers, as it evolved from a computer-assisted method to a fully-**computerised** technique allowing the experiment to be adapted to individual respondents. Stated preference, or hypothetical choice experiments have become a common technique for estimating preferences for...

...to each respondent's actual situation, and to include a wide range of quantitative and qualitative choice factors. Here we describe the development of a **computerised** survey technique, first as an adjunct to a conventional questionnaire, and then as a fully computer-based interview. In the latter version, the experiment is...

...of the program enables an infinite variety of qualitative attributes, which can be nominated by the respondent for consideration. Also, the flexible screen layout and **graphics** capabilities of the computer allow better treatment of "difficult" quantitative factors such as reliability, risk of in-**vehicle** delays, and choice among timetable **options** and bus stop locations. In a more general sense, use of the computer can provide information to the respondent in a more efficient and interesting...

...the practicability of the approach, which opens up new possibilities for innovative, efficient and reliable data collection.(a) for the covering abstract of the seminar see IRRD 816404.

DESCRIPTORS: CONFERENCE; HOUSEHOLD; QUESTIONNAIRE; BUS; PUBLIC TRANSPORT; DEMAND (ECON); **DIGITAL** COMPUTER; SELECTION; LEVEL OF SERVICE; DELAY; TIMETABLE; LOCATION; STOP (PUBLIC TRANSP); UNITED KINGDOM; DATA ACQUISITION

16/3,K/16 (Item 4 from file: 63)  
DIALOG(R)File 63:Transport Res(TRIS)  
(c) fmt only 2001 Dialog Corp. All rts. reserv.



File 9:Business & Industry(R) Jul/1994-2001/Sep 12  
     (c) 2001 Resp. DB Svcs.  
 File 623:Business Week 1985-2001/Sep W2  
     (c) 2001 The McGraw-Hill Companies Inc  
 File 810:Business Wire 1986-1999/Feb 28  
     (c) 1999 Business Wire  
 File 624:McGraw-Hill Publications 1985-2001/Sep 14  
     (c) 2001 McGraw-Hill Co. Inc  
 File 813:PR Newswire 1987-1999/Apr 30  
     (c) 1999 PR Newswire Association Inc  
 File 20:World Reporter 1997-2001/Sep 14  
     (c) 2001 The Dialog Corporation  
 File 636:Gale Group Newsletter DB(TM) 1987-2001/Sep 13  
     (c) 2001 The Gale Group  
 File 637:Journal of Commerce 1986-2001/Sep 14  
     (c) 2001 Journal of Commerce Inc

Set	Items	Description
S1	2268165	VEHICLE? OR AUTOMOBILE? OR AUTOMOTIVE OR (CAR OR CARS OR V-AN OR VANS OR SUV OR SUVS)/FW OR TRUCK? ?
S2	1040504	ACCESSOR? OR OPTIONS OR WHEEL? ? OR OPTIONAL(3W) (EQUIPMENT OR FEATURE? ?) OR EQUIPMENT(2W) PACKAGE??
S3	2769741	PREVIEW? OR VISUAL? OR TRY?(3W)OUT OR (DISPLAY? OR SHOW? OR DEPICT?)(3N) (APPEAR? OR INSTALL? OR IMAGE? ? OR PICTURE? ? OR REPRESENTATION? OR GRAPHIC OR LOOK??) OR SEE/FW OR SEEING
S4	151979	(SELECT? OR PICK? OR LIST? OR MENU? OR PULL()DOWN OR PULLD-OWN OR CHOOS? OR CHOSEN) (7N) (MAKE? ? OR VEHICLE? OR PARTS OR -WHEEL? ? OR ACCESSORIES OR MODEL??? OR STYLE)
S5	73	S1(5N)S2(S)S3(S)S4
S6	9361	AUTOBYTEL OR AUTOBY()TEL OR PIT()STOP OR EDMUNDS OR PITSTOP OR AUTOWARE()TECHNOLOGIES
S7	28	S5(S) (S6 OR INTERNET? OR ONLINE OR ON()LINE OR DATABASE? OR DATA()BASE? OR SOFTWARE OR AUTOMATE? OR VIRTUAL OR DIGITAL OR COMPUTER? OR WEB OR WEBPAGE? OR WEBSITE? OR PRODIGY OR MINIT-EL OR VIDEOTEX?)
S8	11	S7 NOT PY=2000:2001
S9	6	S8 NOT PD=19990922:19991231
S10	703	S1(S)S2(5N)S4(S) (BUY? OR SELL??? OR PURCHAS? OR SALE OR SA-LES OR SOLD OR BOUGHT OR (SHOPPING OR VIRTUAL) (2W) (CART? ? OR KART? ?))
S11	210	S10(S) (S6 OR INTERNET? OR ONLINE OR ON()LINE OR DATABASE? -OR DATA()BASE? OR SOFTWARE OR AUTOMATE? OR VIRTUAL OR DIGITAL OR COMPUTER? OR WEB OR WEBPAGE? OR WEBSITE? OR PRODIGY OR MIN-ITEL OR VIDEOTEX?)
S12	204	S11 NOT S5
S13	84	S12 NOT PY=2000:2001
S14	63	S13 NOT PD=19990922:19991231
S15	55	RD (unique items)
S16	44	S15 NOT (BEST()BUY OR ANNUAL OR QUARTER? OR TOP OR RANK??? OR SURVEY OR EXPOSITION? OR DOG OR COMPUTER()BUYER? OR STEREO-)/TI
		?

8/3,K/1 (Item 1 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2001 Resp. DB Svcs. All rts. reserv.

01108730 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**MERCEDES-BENZ VIRTUAL SYSTEM HELPS SELECTION OF A NEW CAR**

(Mercedes-Benz AG is planning to use a virtual reality system to help customers decide which new car model to buy)

Computergram International, n 2585, p N/A

January 20, 1995

DOCUMENT TYPE: Newsletter ISSN: 0268-716X (United Kingdom)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 268

(USE FORMAT 7 OR 9 FOR FULLTEXT)

**TEXT:**

Mercedes-Benz AG is planning to use a **virtual** reality system to help customers decide which new car model to buy. It says the Cyberspace system will help the customer of the future to take the first test drive of his new vehicle by wearing a monitor helmet that will replicate actual conditions. The **computer** automatically follows any head movements and transmits the corresponding **images** to the helmet **display** unit to give the tester the impression of sitting behind the **wheel** of a real **car**. By using a data glove that is linked to the **computer**, the driver can operate functions on the imaginary instrument panel. The research project, based in Berlin, is using hardware from Silicon Graphics Inc - a Power Series 4D/440 Reality Engine and an Indy machine. The **software** is being developed by Berlin-based **software** specialist Art & Comm GmbH, which is working closely with Mercedes-Benz on the project. The image seen in the headset runs at only five to...

...not yet interactive, but will be ultimately, Mercedes-Benz says. The company was not clear on exactly how the system will help the driver to **select** a different **model** of car, since the type of seat covering and the colour of the car will be that of the simulator rather than the car itself  
...

8/3,K/2 (Item 1 from file: 813)  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

1269202

DETH024

**Saturn Takes Major Steps Forward in On-Line Electronic Commerce**

DATE: April 30, 1998 16:33 EDT WORD COUNT: 677

... consumers can choose to continue the process in person, with a sales consultant at the nearest Saturn retail store.

Using the enhanced Interactive Pricing Center, **on -line** "guests" can review a complete **list** of **vehicle models**, factory installed **options**, retailer installed accessories, interior and exterior colors, extended service plans, manufacturer's suggested retail prices, and financing terms with the convenience of a single **web** page. For example, a Saturn guest can add or delete options or change financing terms and **see** how these changes might affect payment terms instantly. When ready, the guest can choose to have this information "sent" to a local retailer. As a result, the **on - line** experience becomes an electronic extension of the Saturn retail showroom experience.

"Increasingly, people are shopping for cars on the Internet before making purchase decisions," says...

8/3,K/3 (Item 2 from file: 813)

DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0996454 LAW021

**Mitsubishi Motors Invites Internet Surfers to Test Drive Its New, Fully Loaded Website at [www.mitsucars.com](http://www.mitsucars.com)**

DATE: September 18, 1996 08:04 EDT WORD COUNT: 594

...out the new engine specs on the Montero sport utility vehicle; watch quick-loading, full-motion video clips of the Eclipse sports coupe; and even **see** the amazing 3000GT Spyder transform from hardtop to convertible right before their eyes. The exclusive "Build and Price" feature

lets you chose the exact **model** Mitsubishi you want, **select** the color and

**options** , and instantly brings the **car** to "life" right on the **computer** screen

-- along with the manufacturer's suggested retail price and warranty information.

The MMSA Website also provides online tools to identify whether buying or leasing...

8/3,K/4 (Item 1 from file: 20)

DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

08759797

**Late model 'Stang owners have plenty of sites to surf on the Internet**

GRANT YOXON

FINANCIAL POST, p07

December 17, 1999

JOURNAL CODE: FFP LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 372

... those unfamiliar with Mustang performance can bone up on Mustang-specific acronyms and terminology. For fun, surfers can play little Shockwave games, try out various **wheels** on their **car** or **listen** to the sounds made by different aftermarket mufflers.

8/3,K/5 (Item 2 from file: 20)

DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

08759791

**Winterized and ready to go, thanks to technology's community**

ROB WILSON

FINANCIAL POST, p04

December 17, 1999

JOURNAL CODE: FFP LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 384

... of their cars and get ready for the last icy blast of the millennium. Winter-preparedness tips, thankfully, are not hard to find on the **Internet** . If you subscribe to Bell's Sympatico service, just follow the links under the "automotive" listing (or you can go to [www1.Sympatico.ca/Contents...](http://www1.Sympatico.ca/Contents...)

... extra 30 seconds to clean off your roof and back windshield. I hate being clobbered by that slab of ice, and I want you to **see** me. 3. Remember, four-wheel drive doesn't help you stop. Most of the vehicles I saw buried at the side of the road last...

8/3,K/6 (Item 3 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

08408363 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Driving the once and future road: The customer orders her car as she would a computer: Built to her exact requirements. She does this online. The car runs on a fuel cell and keeps her in touch by Internet at all times**

DONALEE MOULTON

FINANCIAL POST, p07

November 26, 1999

JOURNAL CODE: FFP LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 798

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... electric, four-wheel drive hybrid-electric or two-wheel drive internal combustion.

The car was designed to meet emission standards anywhere in the world. "We see the day when we'll have a stock of common vehicle parts and three propulsion units to draw from," says Robert Purcell, executive director of ...

... The customer places an order that includes his or her choice of body style, vehicle colour, features and propulsion system. It's like ordering a **computer** today: Built to the customers' unique specifications and delivered nearly as fast."

8/3,K/7 (Item 4 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

08272213 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Autobytel.com Auction Finds Jerry Seinfeld's Saab a New Co-Star**

PR NEWSWIRE

November 17, 1999

JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 745

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... the exterior, interior and mechanical details of the vehicle, E-escrow, roadside assistance, arbitration, and transportation. Additionally, Autobytel.com provides multiple financing, refinancing and insurance **options**, specific **vehicle** maintenance schedules, service reminders and numerous other automotive services.

"The Autobytel.com Auction is a pleasant and efficient way to purchase a car online," said...

8/3,K/8 (Item 5 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

07021321 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**ITALY: GARAGE EQUIPMENT MARKET (4)**

INDUSTRY SECTOR ANALYSIS

July 27, 1999

JOURNAL CODE: FISA LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 1844

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... 402 exhibitors, 27,000 visitors Organizer: Lingotto Fiere S.p.A.  
Via Nizza 294 10126 Turin (TO) tel: 39/011/6644111 fax: 39/011/6647847  
**internet** : <http://www.lingottotfiere.it>; e-mail: [info@lingottotfiere.it](mailto:info@lingottotfiere.it)  
Contact: Dr. Andrea Ferrari, Manager

AUTOPROMOTEC (International exhibition of machinery, tools and products for auto repair...

8/3,K/9 (Item 6 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

01519933 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Saturn Takes Major Steps Forward in On-Line Electronic Commerce**  
PR NEWSWIRE  
April 30, 1998 16:50  
JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 616

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... options, retailer installed accessories, interior and exterior colors, extended service plans, manufacturer's suggested retail prices, and financing terms with the convenience of a single **web** page. For example, a Saturn guest can add or delete options or change financing terms and **see** how these changes might affect payment terms instantly. When ready, the guest can choose to have this information "sent" to a local retailer. As a result, the **on-line** experience becomes an electronic extension of the Saturn retail showroom experience.

"Increasingly, people are shopping for cars on the Internet before making purchase decisions," says...

8/3,K/10 (Item 1 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

04666329 Supplier Number: 59997855 (USE FORMAT 7 FOR FULLTEXT)  
**E-LOAN, INC. (Brief Article)**  
Japan-U.S. Business Report, n362, pNA  
Nov, 1999  
Language: English Record Type: Fulltext  
Article Type: Brief Article  
Document Type: Newsletter; Trade  
Word Count: 76

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

The firm that E-LOAN, INC. formed last spring with SOFTBANK CORP.'s consumer finance unit (**see** Japan-U.S. Business Report No. 357, June 1999, p. 23) will help people who buy cars and trucks through VERTEX VISION INC.'s **on-line** used-vehicle auctions to arrange financing. A localized version of the Dublin, California firm's **virtual** loan broker takes information about the **vehicle**, lets users **choose** insurance **options**, calculates likely premiums and submits loan applications to finance companies.

8/3,K/11 (Item 2 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

02608263 Supplier Number: 45276523 (USE FORMAT 7 FOR FULLTEXT)  
**MERCEDES-BENZ VIRTUAL SYSTEM HELPS SELECTION OF A NEW CAR**  
Computergram International, n2585, pN/A  
Jan 20, 1995  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 267

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

Mercedes-Benz AG is planning to use a **virtual** reality system to help customers decide which new car model to buy. It says the Cyberspace system will help the customer of the future to take the first test drive of his new vehicle by wearing a monitor helmet that will replicate actual conditions. The **computer** automatically follows any head movements and transmits the corresponding **images** to the helmet **display** unit to give the tester the impression of sitting behind the **wheel** of a real **car**. By using a data glove that is linked to the **computer**, the driver can operate functions on the imaginary instrument panel. The research project, based in Berlin, is using hardware from Silicon Graphics Inc - a Power Series 4D/440 Reality Engine and an Indy machine. The **software** is being developed by Berlin-based **software** specialist Art & Comm GmbH, which is working closely with Mercedes-Benz on the project. The image seen in the headset runs at only five to...

...not yet interactive, but will be ultimately, Mercedes-Benz says. The company was not clear on exactly how the system will help the driver to **select** a different **model** of car, since the type of seat covering and the colour of the car will be that of the simulator rather than the car itself

...  
?

16/3,K/1 (Item 1 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2001 Resp. DB Svcs. All rts. reserv.

02552659 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Don't Miss the Bus!**

**(Youths aged 4 to 19 spent \$168 bil in the summer of 1998; marketers must heighten their aggressiveness to ensure seizing a significant portion of the market)**

American Demographics, v 21, n 8, p 48+  
August 1999

DOCUMENT TYPE: Journal ISSN: 0163-4089 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 3845

(USE FORMAT 7 OR 9 FOR FULLTEXT)

**TEXT:**

...olds, launched a catalog that has become a staple in the backpacks of kids down to first grade. Its mere existence acknowledged this group's **buying** power. The catalog, which features wholesome, ethnically diverse teens modeling a wide range of styles of apparel and **accessories**, is a **vehicle** for conversation and wish-listing. Late last year, Delia's debuted an **online** store (dELiA's.com) that, like the catalog, encourages consumers to mix-and-match their own looks and express their own identities. Even something as...

16/3,K/2 (Item 2 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2001 Resp. DB Svcs. All rts. reserv.

02364748 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**D/C goes national with online buying**

**(DaimlerChrysler introduces Get a Quote online buying service)**

Automotive News, p 6

February 01, 1999

DOCUMENT TYPE: Journal ISSN: 0005-1551 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 588

**ABSTRACT:**

DaimlerChrysler Corp has introduced its **online** **buying** service called Get a Quote. The **Web** service began as a pilot in 6/97 for dealerships in Maryland and California. With the new service, car **buyers** and lessors can **select** **vehicles** and **options** and give the information to a nearby Five Star dealer, receiving a quote within 24 hours. The method of quotation can be from e-mail, fax or telephone. Since only Five Star dealers can participate, DaimlerChrysler is using the **online** service to try and convince dealers to upgrade to Five Star status. Full text further discusses the new **online** service. ...

16/3,K/3 (Item 3 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2001 Resp. DB Svcs. All rts. reserv.

02295073 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**SAAB, M-B SELL ACCESSORIES ONLINE**

**(Mercedes-Benz of North America Inc and Saab Cars USA Inc, which expects online sales of \$500,000 in 1998, are attempting to sell automobile accessories via online catalogs)**

Automotive News, p 20

November 16, 1998

DOCUMENT TYPE: Journal ISSN: 0005-1551 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 319

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...Shoppers can now buy C-class, E-class, S-class and M-class apparel.

The new setup also lets shoppers choose automotive accessories from the online catalog as they are configuring the vehicle they want to buy.

'I'm not going to tell you that we're profitable,' said Bill Hurley, manager of new media and relationship marketing at Mercedes-Benz. 'We...

16/3,K/4 (Item 4 from file: 9)

DIALOG(R)File 9:Business & Industry(R)

(c) 2001 Resp. DB Svcs. All rts. reserv.

02176949

**Used-car dealer taps new market with satellite-based sales channel**

**(Gulliver International Corp unveils system to market used cars via digital communications satellite)**

Nikkei Weekly, v 36, n 1830, p 9

June 22, 1998

DOCUMENT TYPE: Journal ISSN: 1060-3506 (Japan)

LANGUAGE: English RECORD TYPE: Abstract

ABSTRACT:

Gulliver International Corp has unveiled a system to market used cars via digital communications satellite. Called Dolphinet, the system allows shoppers to use a touch panel to choose from among 6,000 make, model, year and price options. The terminals, similar to automated teller machines, have been positioned at 131 gasoline stations that have contracted with Gulliver to install them. The terminal displays a picture of the car and information about it. The company operates 306 shops in Japan to buy used cars. Information about used cars purchased by Gulliver is transmitted to the Dolphinet terminals via satellite. Gulliver had sales of Yen5.9 bil (\$43.7 mil) in the fiscal year ended 2/97.

...

16/3,K/5 (Item 5 from file: 9)

DIALOG(R)File 9:Business & Industry(R)

(c) 2001 Resp. DB Svcs. All rts. reserv.

02097588 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Dealer's 300-mile Web delivery plan has rivals howling**

**(Chrysler takes a hands-off approach to Polo Jeep-Eagle's use of an Internet Web site to sell vehicles in a 300 mile radius; move prompts complaints from other dealers)**

Automotive News, v 71, n 5757, p 3+

March 16, 1998

DOCUMENT TYPE: Journal ISSN: 0005-1551 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 680

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...KISIEL

Staff Reporter

Joe Dawson, a Jeep-Eagle dealer in Muncie, Ind., is trying to take Internet selling to a new level.

Customers on his Web site can choose options and price any vehicle without help from a salesperson. And Dawson will deliver a vehicle free to any buyer within 300 miles.

photo omitted



His aggressive Internet approach is angering dealers who fear he will encroach on their sales territories. But so far, Chrysler...

16/3,K/6 (Item 6 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2001 Resp. DB Svcs. All rts. reserv.

01925325

**GM lets buyers browse dealer lots on Internet**  
(An estimated 1.5 mil new cars to be sold in 1997 with the Internet's help;  
GM will permit buyers to use the Internet)

USA Today, p 2B

September 05, 1997

DOCUMENT TYPE: National Newspaper ISSN: 0161-7389 (United States)

LANGUAGE: English RECORD TYPE: Abstract

ABSTRACT:

General Motors (GM) has revealed that starting 10/15/97 auto **purchasers** in CA, ID, OR and WA will be able to use the **Internet** to "virtually" browse dealers, **picking car make, model and options by computer**. However, **purchasers** still must negotiate price. GM is trying to take advantage of the estimated 1.5 mil new **cars** to be **sold** in 1997 with the assistance of the **Internet**. A majority of major auto firms already utilize **Internet sales tools**. GM estimates that 25% of its dealers possess their own **Web sites**. GM sees its "**GM BuyPower**" program as the industry's most comprehensive **Internet** research tool so far. Along with offering **computer**-based research about autos and inventories, the program can pre-qualify **purchasers** for financing. ...

16/3,K/7 (Item 7 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2001 Resp. DB Svcs. All rts. reserv.

01898178 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**THREE ST. LOUIS, MO., TECHNOLOGY COMPANIES TO OFFER INTERNET-BASED PRODUCTS**  
(NewStar Collaborative Technologies, Heartland Technologies and Toro Technologies are all set to offer Internet-based products and services)

St Louis Post-Dispatch, p N/A

July 09, 1997

DOCUMENT TYPE: Regional Newspaper ISSN: 0361-5561 (United States)

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 686

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:

...picks up product and calls the courier. You could have the product out in a matter of hours -- or minutes."

They also envision products being **sold** to auto dealers, for instance, so that visitors to a dealer's **Web** site could **pick** out their dream **car** -- **make, model, options, color** -- and then click a button to talk to a salesperson right **online** to make a deal.

Or a company that offers customer support service for products it has already sold could offer an option at the end...

16/3,K/8 (Item 8 from file: 9)  
DIALOG(R)File 9:Business & Industry(R)  
(c) 2001 Resp. DB Svcs. All rts. reserv.

01464922 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**GMC alters supply plan**

(Part of its 2-month-old vehicle allocation system is being overhauled by GMC to deal with shortages of certain vehicle parts)

1994 cars , trucks , and vans . The user selects the price range they want and preferences like foreign or domestic manufacturer and front or rear wheel drive. One can even select a specific make and model . The software offers information about vehicles that meet one's specifications, including a price range and fuel economy.

A Payment Estimator calculates payments based on price, down payment, and interest rates...

16/3,K/11 (Item 1 from file: 624)  
DIALOG(R)File 624:McGraw-Hill Publications  
(c) 2001 McGraw-Hill Co. Inc. All rts. reserv.

00753758

**KICKING TIRES ON THE WEB**

Business Week April 29, 1996; Pg 130E8; Number 3473  
Journal Code: BW ISSN: 0007-7135  
Section Heading: Personal Business: HOT WHEELS  
Word Count: 737 \*Full text available in Formats 5, 7 and 9\*

BYLINE:  
EDITED BY AMY DUNKIN  
By Edward Baig

TEXT:

... with a dent in it.'" So Mathews called upon a new car-shopping tool: a World Wide Web browser.

Mathews pointed the browser to a Web site known as Auto-By-Tel, a service that purports to make car buying hassle-free. He filled out an Auto-By-Tel purchase -request form listing the model , color, and options he wanted, along with his desire to lease. Two days later, he received a call from a sales manager at Koeppel Nissan in Jackson Heights, N.Y., which, as it happened, was one of the dealers Mathews had visited in person. Auto-By-Tel has an arrangement with 1,400 dealers who pay \$2,500 annually plus \$250 to \$1,500 a month for referrals. The sales manager who phoned was not the fellow Mathews had dealt with earlier, and his leasing offer was about \$40 less per month than what was originally quoted. Mathews agreed to the price, made an appointment to fill out paperwork, and--without dicker--got the keys to a new vehicle .

Today, car shoppers can cruise the Information Highway for all kinds of assistance. Just about every major auto manufacturer, plus numerous individual dealers and regional...

16/3,K/12 (Item 1 from file: 813)  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

1447986

LATH034

**Lithia Motors Forms Internet Division - Lithia.com - 'America's Car and Truck Store On The Internet'**

DATE: April 1, 1999 03:18 EST WORD COUNT: 528

...Nasdaq: AWEB) or other lead generator services. Lithia will capture more and more of the growing Internet business with Lithia.com."

Lithia has developed a web -site for each of its stores and now provides the following functions at the "one-stop" location, www.lithia.com: 1) New Vehicle Ordering; 2) Hot-Links to Manufacturer Web -Sites for New Vehicle Product Information; 3) Used Vehicle Inventory Lists ; 4) Service Appointment Scheduling; 5) Parts and Accessory Ordering; 6) Internet Specials and Coupons; 7) Maps and Photos of Each Dealership; 8) Photos of Department Managers; 9) Employment Information; and 10) Investor Information. Lithia has already been advertising in its existing local markets under the "lithia.com" name and has established its own Internet presence in these markets. The

**Internet** division will expand the marketing of "Lithia.com," monitor and control the **Internet** sales process, and continue to improve the web-sites.

Including pending acquisitions, Lithia will operate 35 stores located in California, Oregon, Washington, Nevada and Colorado. The company will sell 24 brands of new...

16/3,K/13 (Item 2 from file: 813)

DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

1413730

**MSN CarPoint Collaborates With Interactive Pictures and Dealer Specialties To Provide the Internet's Most Advanced Technology for Used Car Shopping**

DATE: February 1, 1999 09:20 E.T. WORD COUNT: 941

... degree IPIX images of used vehicle listings to help car buyers find and buy used cars on the Internet.

Interactive Pictures provides the hardware and **software** for the IPIX 360 Interior View. Through IPIX' technology, Dealer Specialties will be able for the first time to obtain interior photos of used cars...

... Currently, Dealer Specialties provides exterior photos and "window side stickers" listing full vehicle information such as options, fair market value and dealer price for used **cars** on MSN CarPoint. The addition of these new viewing features will give customers on MSN CarPoint the most complete information to shop for and **buy** used **cars** on the **Internet**.

"The integration of IPIX images for virtual tours of preowned automobiles has been tremendously well received by dealers and potential buyers," said Jim Phillips, chairman...

16/3,K/14 (Item 3 from file: 813)

DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

1339926

LAM093

**J.D. Power and Associates Reports: One Out of Four New Car Buyers Shop the Internet**

DATE: September 14, 1998 15:29 EDT WORD COUNT: 642

... and will put in the time and effort to make sure they obtain the right vehicle at the right price.

According to the study, most **automotive Internet** shoppers log onto the **Internet** to find information and services before they visit a dealership and often before they begin thinking seriously about **purchasing** a new **vehicle**. Manufacturer **Web** sites are typically the first place **Internet**-savvy consumers turn to gather product information. Currently, 75 percent of **automotive Internet** shoppers log onto manufacturer **Web** sites to find information such as **lists** of available **models**, **options**, specifications, **vehicle** photos and **list** prices.

After arming themselves with information from manufacturer Web sites, automotive Internet shoppers visit consumer guide sites such as Kelley Blue Book and Edmund's...

16/3,K/15 (Item 4 from file: 813)

DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

1178745

NEM024

**Digital Leads The Industry On Price Performance With New Fully Featured HiNote VP 700 Mobile Clients**

DATE: November 3, 1997

09:15 EST

WORD COUNT: 869

... service offering will be implemented worldwide during the first half of 1998.

**Pricing and Availability**

The HiNote VP 715 and 735 are available immediately through **Digital** 's channel partners and resellers at estimated **selling** prices ranging from U.S. \$3,799 to \$4,999. In addition to the new VP 700 **models** announced today, **Digital** also introduced a broad **selection** of optional system **accessories** and upgrade kits, featuring a Smart LiIon second battery for U.S. \$219, a Minidock port replicator with cardbus for \$249 and an Airline/**car** power adapter for \$139.

U.S. pricecuts on the HiNote VP 500 series are effective immediately, with prices now ranging from U.S. \$1,999...

**16/3,K/16 (Item 5 from file: 813)**

DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

1149106

LAM027

**1998 New Car Prices Now On-Line**

DATE: September 8, 1997

07:02 EDT

WORD COUNT: 589

... looking for. Or, they can retrieve wholesale and retail pricing information on a manufacturer's entire line.

However, the biggest innovation regarding TACH's New **Car Buyers** Guide is SPEC-IT BID-IT **BUY** -IT, which allows **car** shoppers to quickly fill out a TACH New **Car Purchase** Request form. This form **lists** the **make**, **model**, and **options** **chosen**; along with actual factory codes, total MSRP, and dealer invoice cost. It can then be immediately printed out, to be taken or faxed to the dealer(s) of their choice. A separate **database** on The Auto Channel contains every new **car** dealer in the United States.

According to Bob Gordon, President of The Auto Channel, "TACH is designed to empower consumers with the knowledge and tools...

**16/3,K/17 (Item 6 from file: 813)**

DIALOG(R)File 813:PR Newswire

(c) 1999 PR Newswire Association Inc. All rts. reserv.

1115670

PHM046

**J.C. Whitney Chooses Millstar to Develop New Web Site**

DATE: June 23, 1997

15:59 EDT

WORD COUNT: 449

...track record for working within a specific time frame and budget."

When the site debuts it will offer customers the opportunity to both view and **purchase** products **online**. Commenting on the site's transaction capabilities, Bjorncrantz said, "Initially, we will offer an abbreviated **selection** of **automotive** **parts** and **accessories**, including hard-to-find items. Over time, we want our customers to be able to **purchase** 'everything **automotive** ' **online**, just as they do now through our family of catalogs." Bjorncrantz also spoke about plans to use the site to survey customers and provide them information. "Our **Web** site will

give us survey capabilities that we can use to learn more about our customers and how we can continue to build our product lines and services to meet their needs. And, our **Web** site gives us an exciting new way to tell the J.C. Whitney story, so that our customers can get to know us better."

In...

16/3,K/18 (Item 7 from file: 813)  
DIALOG(R)File 813:PR Newswire  
(c) 1999 PR Newswire Association Inc. All rts. reserv.

1110395 DEW017A  
**Saturn Announces First Wave of Purchases Through Its Interactive Pricing Center on the Internet**

DATE: June 11, 1997 11:53 EDT WORD COUNT: 648

...Suggested Retail Price shown on the dynamically generated window sticker reflect the vehicle and options selected.

"The convenience of using Saturn's honest, straight-forward, **online** information to research and **select** a **vehicle** and **options** is a welcome innovation for a growing number of our customers," says Joe Kennedy, Saturn Vice President of **Sales**, Service, and Marketing. "The Interactive Pricing Center reinforces our reputation for **automotive** marketing leadership by adding a new dimension to the 'Saturn Difference.'"

"Extending the Saturn Difference through technology gives customers great flexibility and can shorten total...

16/3,K/19 (Item 1 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

07334406 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Detroit Free Press Doron Levin Column**  
Doron Levin  
KRTBN KNIGHT-RIDDER TRIBUNE BUSINESS NEWS (DETROIT FREE PRESS - MICHIGAN)  
September 21, 1999  
JOURNAL CODE: KDFP LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 663

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... to dealers), GM might save a vast amount of discount and rebate money, which no longer would be needed to clear slow-moving inventory.

The **Web** is the obvious tool to find out, say, precisely how many yellow Grand Prix models with a specified list of options GM should build. But will consumers truly flock to order **cars** via the **Internet**? Some already do at such sites as **autobytel**.com. Growing numbers of consumers are double-clicking to **buy** airline tickets, houses and just about anything that can be **bought**.

When retail sales registered a big spike in Internet orders last Christmas, GM's board finally decided the Internet was for real. Senior executives tapped...

16/3,K/20 (Item 2 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

07192121  
**Proton tries direct approach to car buyers**  
Tim Dornin  
ABIX - AUSTRALASIAN BUSINESS INTELLIGENCE (AGE) , p3  
September 14, 1999

JOURNAL CODE: WTAG LANGUAGE: English RECORD TYPE: ABSTRACT  
WORD COUNT: 116

... move directors said would soon be copied by other vehicle makers. Potential buyers can check the cars, choose their vehicle and specify options on a **computer**, calculate payments in what the company said was a less threatening environment. Proton Cars Australia managing director Anuar Rozham said market research showed consumers wanted new options for the **purchase of cars**

16/3,K/21 (Item 3 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

06862095

**Green light for Net car sales**

Madonna Cameron

ABIX - AUSTRALASIAN BUSINESS INTELLIGENCE (COURIER-MAIL), p7

August 23, 1999

JOURNAL CODE: WTCM LANGUAGE: English RECORD TYPE: ABSTRACT  
WORD COUNT: 91

Ford and Holden are both starting to market new cars in Australian on the **Internet** in 1999. Customers can select custom options for their vehicle, order it, and track its progress from factory to delivery point. Ford plans to offer its T-series sports **vehicles** through the Ford Tickford Experience in October 1999, while Holden already offers a similar service for its HSV series in August 1999. Monash Mt Eliza business school marketing professor Peter Reed said **Internet buying** was allowing manufacturers to establish more closely assess the needs of their customers

16/3,K/22 (Item 4 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

06317783 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**INFORMIX: JC Whitney picks Informix i.Sell to drive sport compact car site Phatspeed.com**

M2 PRESSWIRE

July 21, 1999

JOURNAL CODE: WMPR LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 233

JUL 21, 1999, M2 Communications - San Diego, Calif. -- Solutions Portal '99 -- Informix Corporation (NASDAQ: IFMX), the technology leader in enterprise **database**-powered solutions, today announced that JC Whitney & Co., a leading direct-to-consumer supplier of automobile parts and accessories, has selected the Informix i.**Sell** e-commerce solution as the foundation for phatspeed.com, JC Whitney's new **Web** site dedicated to performance parts for the sport compact aftermarket. Hosted by an **Internet** service provider, Exodus Communications Inc., phatspeed.com is scheduled to go live at the end of July and will rely primarily on its **Internet**-based parts and accessories catalog, as opposed to traditional direct mail and print catalogs, to generate orders.

"Sport compact car drivers are typically young, progressive...

16/3,K/23 (Item 5 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

06286975 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**@Ventures, Brand Equity Spark CarParts.Com's Shift Into High Gear**

PR NEWSWIRE

July 20, 1999

JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 719

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... We've surmounted formidable challenges to be the Amazon.com of the automotive aftermarket," said Bennett, pointing to his team's successful integration of disparate **databases**, design of a unique search engine to facilitate customer needs, and creation of an efficient system that ensures speedy delivery and guarantees customer satisfaction. "CarParts.com provides the largest selection of quality accessories and parts for virtually any **vehicle** make, model and year, and makes it easy for consumers to find and order those parts through a secure **online** system. As a result, we have earned the enthusiasm and loyalty of our three primary markets: do-it-yourselfers, specialty enthusiasts/hobbyists and the casual accessory **buyer**."

The newly launched site was met with applause from auto parts manufacturers that recognize the power of the Web to broaden markets globally for their...

16/3,K/24 (Item 6 from file: 20)

DIALOG(R)File 20:World Reporter

(c) 2001 The Dialog Corporation. All rts. reserv.

04219220 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**ADVISORY/Warning: Online Trading Without the Guidance of a Broker May be Hazardous to Your Financial Health**

BUSINESS WIRE

February 03, 1999

JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 591

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... and chairman of MoneyStar. "As consumers increase their use of the Internet, they are demanding the ability to track their investment progress, evaluate their investment **options** and **select** investment **vehicles** **online**. The **Internet** provides a great forum for doing this. But, they still need the advice, expertise and guidance provided by investment professionals. Most **online** investors have only invested in the most successful bull market in history. What happens when the market turns around?"

If you would like to talk...

16/3,K/25 (Item 7 from file: 20)

DIALOG(R)File 20:World Reporter

(c) 2001 The Dialog Corporation. All rts. reserv.

04213798 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**MICROSOFT: MSN CarPoint, Interactive Pictures & dealer specialties in net car shopping initiative**

M2 PRESSWIRE

February 02, 1999

JOURNAL CODE: WMPR LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 836

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... degree IPIX images of used vehicle listings to help car buyers find and buy used cars on the Internet.

Interactive Pictures provides the hardware and **software** for the IPIX 360 Interior View. Through IPIX' technology, Dealer Specialties will be able for the first time to obtain interior photos of used cars...

... Currently, Dealer Specialties provides exterior photos and "window side stickers" listing full vehicle information such as options, fair market value and dealer price for used **cars** on MSN CarPoint. The addition of

these new viewing features will give customers on MSN CarPoint the most complete information to shop for and **buy** used **cars** on the **Internet** .

"The integration of IPIX images for virtual tours of preowned automobiles has been tremendously well received by dealers and potential buyers," said Jim Phillips, chairman...

16/3,K/26 (Item 8 from file: 20)

DIALOG(R)File 20:World Reporter

(c) 2001 The Dialog Corporation. All rts. reserv.

04059000 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**It's a bargoon! Salter New Media launches online auctions at  
www.bargoon.com**

CANADA NEWSWIRE

January 19, 1999

JOURNAL CODE: WCNW LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 433

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... are not localized, Bargoon.com allows buyers to go out and ``kick the tires'' before finalizing a deal.

Vendors include individuals with single items to **sell** and retail businesses with multiple products in stock. Each listing on the site can include a photo, as well as a detailed description and delivery information. To kick off the site, categories listed on Bargoon.com include **computers** and accessories, copiers, consumer electronics, sports collectibles, jewelry, rare books, health and fitness products, **automobiles** and more.

Bargoon.com is the creation of Salter New Media, an affiliate of Salter Street Films and MT&T. Based in Halifax, Nova Scotia...

16/3,K/27 (Item 9 from file: 20)

DIALOG(R)File 20:World Reporter

(c) 2001 The Dialog Corporation. All rts. reserv.

03688159 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Buy a Sports Rack Online Today: Rackzone.com Launched; World's First Site  
Built Exclusively for Buying Sports Racks Via the Web Comes Online**

BUSINESS WIRE

December 08, 1998

JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 487

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... model and year of their vehicle. Then they select the sports equipment they wish to carry (bikes, skis, kayaks).

The Wizard automatically queries a comprehensive **database** of vendor-certified `fits,' and immediately returns exact information on which sports rack is recommended for their vehicle, as well as a list of options for carrying their equipment on the base rack. Once the customer is ready to **purchase** , they hit the "Add to Cart" button and all the items are added to their shopping basket.

"We are making it easy for the customer...

16/3,K/28 (Item 10 from file: 20)

DIALOG(R)File 20:World Reporter

(c) 2001 The Dialog Corporation. All rts. reserv.

03176038

**Big step Ford on the web**

ABIX - AUSTRALASIAN BUSINESS INTELLIGENCE (DAILY TELEGRAPH (AUSTRALIA))

, p49

July 17, 1998



JOURNAL CODE: WTDI LANGUAGE: English RECORD TYPE: ABSTRACT  
WORD COUNT: 103

... has set up an interactive website on the Internet. If customers want to buy a new Ford or Festiva it is possible to view the **vehicle options** and **select** an appropriate financial package. Customers can wade through the product range through Ford's **Virtual** Showroom and then click on the finance icon to the Ford Credit site. The site has a product page offering a brief description of credit available for individuals and businesses and provides monthly repayment figures based on the recommended retail price of the chosen **vehicle**. There is also the services of a financial planner available on the site

16/3,K/29 (Item 11 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

03106124

**Microsoft Launches Innovative 'Own the Day' Advertising Program**

PR NEWSWIRE

October 14, 1998

JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 619

Tektronix Is First to **Purchase** Advertising Space Across the Entire MSNBC Site For the Day REDMOND, Wash., Oct. 14 /PRNewswire/ -- Microsoft Corp. (Nasdaq: MSFT) today announced that on Oct. 15 one of the company's major advertisers, Tektronix Inc., will "own the day" by **purchasing** banners across the top of every page on the popular MSN(TM) MSNBC site. The Microsoft **online sales** team developed the "Own the Day" program to offer advertising clients the opportunity to **purchase** sections of sites, an entire site or multiple sites across MSN. Being able to reach all users for an entire day on the **Internet**'s top news site is unprecedented. The MSN "Own the Day" advertisements are a critical part of an aggressive worldwide marketing campaign that Tektronix is launching to promote its new line of color printers to be introduced Oct. 15. Advertisers like Tektronix are **buying** space on MSN to be associated with a broad array of high-production-value content. Microsoft's knowledgeable **online sales** team makes the **buying** process simple by providing a menu of product and package options and customizing them to fit the client's objectives. Microsoft(R) technology enables the...

... provide cutting-edge campaigns that give the client measurable results. "MSN is a great place to advertise," said Charlotte Guyman, general manager of the Microsoft **online sales** and marketing team. "In addition to a broad consumer reach, properties on MSN deliver a highly qualified audience to businesses, helping them achieve their **sales** and marketing goals." MSN offerings include sponsorships of content and service segments, banner ads, promotions, cross-network packages and rich media **online** commercials using Microsoft Windows(R) Media Technologies. About MSN MSN is the network of **Internet** services from Microsoft that helps people better organize the **Web** around what's important to them. The network of MSN services, located on the **Web** at MSN.COM ( <http://msn.com/> ), helps people easily stay in touch with friends and colleagues, make smart and secure **purchasing** decisions, and get more done. MSN offers award-winning e-mail functionality; personal communications services; customizable access to news; popular sites for travel, investing, **automotive** services, shopping and more; an **online** community; a **Web** search engine and directories; and top-rated **Internet** access. About MSNBC MSNBC, a joint venture of Microsoft and NBC, is the No.1 **online** news site, with over 8.8 million unique users per month. MSNBC is the most interactive news site at the moment, closely allied with the MSNBC cable channel but setting out to create features specifically for the **Web** medium. MSNBC is a leader in polls, chats and discussions, many of which tie into daily coverage on the cable channel. This expansive site makes news make sense on the **Web**. MSNBC has won numerous awards. At the 1998 Society of Publication Designers (SPD) annual competition, MSNBC captured an unprecedented 14 separate merit

awards for design...

... SPD is the most prestigious professional association of art directors and designers in the world. MSNBC was listed in PC Magazine's recent Top 100 **Web** sites. Founded in 1975, Microsoft is the worldwide leader in **software** for personal **computers**. The company offers a wide range of products and services for business and personal use, each designed with the mission of making it easier and...

... herein may be trademarks of their respective owners. /NOTE TO EDITORS: If you are interested in viewing additional information on Microsoft, check out the Microsoft **Web** page at <http://www.microsoft.com/presspass/> on Microsoft's corporate information pages/ /CONTACT: Audrey O'Kelley of Shandwick, 425-452-5400, [aokelley@shandwick.com](mailto:aokelley@shandwick.com)...

16/3,K/30 (Item 12 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

03004332

**Third Time's a Charm for Contestant Appearing On "The Big Spin" Show**  
BUSINESS WIRE  
October 04, 1998  
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 590

... bills and helping his family. The San Diego resident had a few extra dollars in his pocket and was trying to decide which Scratchers to **buy**. He **bought** a \$2 Scratchers and also **bought** a "Big Spin(R)" Scratchers. On the "Big Spin(R) Scratcher he uncovered a SPIN-SPIN-SPIN. Garcia said he danced all day! Rigoberto Rubio...

... homemaker from Roseville who won \$25,000 after being chosen by Scooter to spin the wheel. Money-Vega had gone into a nearby store to **buy** her children a treat. She gave her kids each one dollar and with another dollar she **bought** a Big Spin Scratcher. That was the ticket that brought her to the Big Spin(R). Money-Vega will **buy** a **car** and pay bills with her winnings. David Kert, a police dispatcher from Cameron Park won \$50,000 playing the Fantasy 5 Dream Machine. Kert plans...

... home to Germany to see her family with his prize winnings. Kert's wife hasn't seen her family in 11 years. The California Lottery **sells** its products through a network of nearly 19,000 outlets statewide. The Lottery provides 51.5 percent of its revenues to players as prizes, 34...

... J. Fajardo Los Angeles \$ 5,000 Scooter Players \$ 13,500 TOTAL \$ 246,500  
(Note: Additional information about the California Lottery may be found on our **web** site at <http://www.calottery.com>) CONTACT: California State Lottery Norma Minas or Terri Villareal 916/324-9639 20:33 EDT OCTOBER 2, 1998

16/3,K/31 (Item 13 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

02830983

**CRAGAR Establishes Wire Wheel Supply Relationship With The Heafner Group**  
PR NEWSWIRE  
September 16, 1998  
JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 544

... their customers with high quality brands and products. This agreement significantly expands our relationship with The Heafner Group and could possibly more than double our **sales** of wire wheels." Daniel K. Brown, Sr. Vice President **Sales** & Marketing for The Heafner Group, added, "The CRAGAR name is highly recognized within the custom wheel industry and

by **buyers** of custom wheels. This is especially so in the wire wheel category. As one of the nation's largest distributors of custom wheels, we believe...

... and its customers. We are very pleased to have CRAGAR among our core custom wheel suppliers." CRAGAR Industries, Inc. is an international designer, producer, and **seller** of custom wheels and wheel accessories for **cars**, **trucks**, **vans**, sport utility **vehicles**, racing **vehicles**, and motorcycles. For additional information, contact Michael L. Hartzmark, President and CEO, 602-247-1300. **Internet** address: <http://www.prnewswire.com/cnoc>. To obtain hard copies, call Fax-On-Demand at 800-758-5804. This release includes statements, which may constitute...

16/3,K/32 (Item 14 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

01937969 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Clearnet Launches Direct Internet Sales of PCS at [www.clearnet.com](http://www.clearnet.com) -  
Clearnet Web Store a North American first for a wireless phone company**  
CANADIAN CORPORATE NEWS  
June 15, 1998  
JOURNAL CODE: WCCN LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 528

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... visiting one of the more than 1,400 retailer, dealership, university and Clearnet PCS store locations across Canada or by calling 1-888-CLEARNET.

To **buy** a Clearnet PCS phone **online**, clients simply visit Clearnet's **Web** site and click on the **Web** Store hotlink. Clients can then select Clearnet PCS phones and accessories, such as cases, chargers and **car** kits, and add them to a **virtual "shopping cart."** At the store's "check out," shoppers are connected to **InternetSecure** Inc., Clearnet's electronic-commerce partner, where credit card payment information is collected and verified within seconds. **InternetSecure** has been approved by the top five Canadian banks to provide secure, **on-line**, real-time credit card processing to certified **Internet** merchants.

Clearnet PCS Growth

Clearnet has launched digital PCS service in the greater metropolitan areas of Vancouver, Calgary, Edmonton, Ottawa-Hull, Montral, Toronto and Ontario...

16/3,K/33 (Item 15 from file: 20)  
DIALOG(R)File 20:World Reporter  
(c) 2001 The Dialog Corporation. All rts. reserv.

01526258 (USE FORMAT 7 OR 9 FOR FULLTEXT)  
**Red Orb Entertainment Drives Into New Category With Baja 1000 Racing; Red  
Orb Entertainment Announces New Off-Road Racing Game; Signs Exclusive  
for Baja 1000 License**  
BUSINESS WIRE  
May 01, 1998 9:13  
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT  
WORD COUNT: 776

... for dear life in the challenging off-road racing game, Baja 1000(TM) Racing, announced today from Red Orb Entertainment(TM), a division of Broderbund **Software**, Inc. (NASDAQ:BROD). The next-generation 3D driving game for PC, under development by Trilobyte, Inc., pits man and machine against one of the most...

... the entire length of the Baja California, Mexico peninsula. Players choose from a selection of Class 1 open wheel buggies or super high performance Trophy **Trucks**, and race up to 15 **computer** controlled racers

or 15 human opponents via the **Internet**. Baja 1000 Racing will first be shown publicly at Electronic Entertainment Expo (E3) in Atlanta on May 28-30. The Red Orb Entertainment booth number...

...Main Floor, West Hall. The game is expected to ship in Winter 1998. More information on Baja 1000 Racing can be found at its exclusive **Web** site at <http://www.baja1000racing.com>. SCORE International, which produces and sanctions the Laughlin SCORE Desert Series, began in 1972 when it was founded by...

... active members, holds its races on government-approved, environmentally-safe courses on desert lands in Southern Nevada, Southern California, and Baja California, Mexico. The SCORE **Web** site is located at <http://www.score-international.com>. Baja 1000 Racing is being developed by Medford, Ore.-based Trilobyte, Inc., a leading producer of...

... scale. This game will also be published by Red Orb Entertainment. The company was founded in 1991 with a mission to broaden the interactive entertainment **software** market by developing products which take advantage of cutting-edge technology to enable new forms of immersive gameplay. Trilobyte's debut release, The 7th Guest(TM), ranks as one of the most successful CD-ROM games in the history of the industry, with more than 1.5 million copies **sold** worldwide. The Trilobyte **Web** site is located at <http://www.tbyte.com>. Red Orb Entertainment is a division of Broderbund **Software**, Inc. dedicated exclusively to the development of imaginative, high-quality entertainment **software** for a broad range of game enthusiasts. In addition to developing entertainment **software** within the Red Orb Entertainment studio, Red Orb Entertainment publishes entertainment **software** from several of the industry's leading entertainment **software** development companies. The Red Orb Entertainment **Web** site is located at <http://www.redorb.com>. Broderbund **Software**, Inc. develops, publishes and markets a broad line of interactive **software** for use in homes, schools and small businesses. Since its founding in 1980, Broderbund has repeatedly broken new ground, conceiving and developing families of **software** products with enduring customer appeal based on creativity, innovation and ease-of-use. Some of the company's best-known brands include Family Tree Maker...

...in Novato, Calif., is committed to providing its customers with engaging products that set quality standards and take advantage of the latest technologies. The Broderbund **Internet web** site is located at <http://www.broderbund.com>. Red Orb Entertainment, Broderbund, Extreme Warfare, Family Tree Maker, 3D Home, The Print Shop, Living Books, and Carmen Sandiego are trademarks or registered trademarks of Broderbund **Software**, Inc. Baja 1000 is a trademark of SCORE International. The 7th Guest is a trademark of Trilobyte, Inc. Myst and Riven are trademarks or registered...

16/3,K/34 (Item 16 from file: 20)

DIALOG(R)File 20:World Reporter

(c) 2001 The Dialog Corporation. All rts. reserv.

01265446 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**KALAMAZOO: The Virtual Showroom -- The facts behind the cyber experience**

M2 PRESSWIRE

March 30, 1998

JOURNAL CODE: WMPR LANGUAGE: English RECORD TYPE: FULLTEXT

WORD COUNT: 576

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... traditional print media, but on state-of-the art computer links with the dealership, information on vehicles for sale is always current.

Visitors to the **Virtual Showroom** are taken through a list of options such as location, make, model, mileage, value and monthly repayment. It is even possible for visitors to get a trade-in value for their existing **car**. Within a matter of seconds, a selection of **cars** meeting the criteria specified is displayed for the visitor to view. Once the visitor has

established what **car** they want to see, they can either call or e-mail the dealership to arrange a test-drive. Through manufacturers' and dealers' own branded **web** -pages created by the **Virtual** Showroom, visitors can also investigate the finance agreements and after- **sales** offers that are exclusive to each dealership.

The History of the Virtual Showroom\* The Virtual Showroom was created in 1996 and exploits the innovative services...

16/3,K/35 (Item 1 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

(c) 2001 The Gale Group. All rts. reserv.

04384874 Supplier Number: 55218957 (USE FORMAT 7 FOR FULLTEXT)

**INFORMIX: Informix i.Sell and i.Reach generate sales mo momentum in Q2.**

M2 Presswire, pNA

July 21, 1999

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 1624

... jcwhitney.com), a leading direct-to-consumer supplier of automobile parts and accessories, selected i.Sell as the foundation for phatspeed.com, the company's **on -line** catalog for after-market performance parts and accessories for sport compact **cars** . JC Whitney will also leverage the **database** foundation of Informix i.Sell to ensure a dynamic **Web** site that can be updated on the fly to display current product information, order status and other constantly changing information.

MML Investors Services, Inc. (www...

16/3,K/36 (Item 2 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

(c) 2001 The Gale Group. All rts. reserv.

04384870 Supplier Number: 55218953 (USE FORMAT 7 FOR FULLTEXT)

**INFORMIX: JC Whitney picks Informix i.Sell to drive sp sport compact car site Phatspeed.com.**

M2 Presswire, pNA

July 21, 1999

Language: English Record Type: Fulltext

Document Type: Newswire; Trade

Word Count: 943

... Outlet of Aftermarket Performance Parts for Sport Compact Car Market

San Diego, Calif. -- Solutions Portal '99 -- Informix Corporation (NASDAQ: IFMX), the technology leader in enterprise **database** -powered solutions, today announced that JC Whitney & Co., a leading direct-to-consumer supplier of **automobile parts and accessories** , has **selected** the Informix i.Sell e-commerce solution as the foundation for phatspeed.com, JC Whitney's new **Web** site dedicated to performance parts for the sport compact aftermarket. Hosted by an **Internet** service provider, Exodus Communications Inc., phatspeed.com is scheduled to go live at the end of July and will rely primarily on its **Internet** -based parts and accessories catalog, as opposed to traditional direct mail and print catalogs, to generate orders.

"Sport compact car drivers are typically young, progressive...

16/3,K/37 (Item 3 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)

(c) 2001 The Gale Group. All rts. reserv.

03820552 Supplier Number: 48291808 (USE FORMAT 7 FOR FULLTEXT)

**KALAMAZOO: The facts behind the cyber experience**

M2 Presswire, pN/A

Feb 13, 1998

Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 674

... traditional print media, but on state-of-the art computer links with the dealership, information on vehicles for sale is always current.

Visitors to the **Virtual** Showroom are taken through a list of options such as location, make, model, mileage, value and monthly repayment. It is even possible for visitors to get a trade-in value for their existing **car**. Within a matter of seconds, a selection of **cars** meeting the criteria specified is displayed for the visitor to view. Once the visitor has established what **car** they want to see, they can either call or e-mail the dealership to arrange a test-drive. Through manufacturers' and dealers own branded **web** -pages created by the **Virtual** Showroom, visitors can also investigate the finance agreements and after-sales offers that are exclusive to each dealership.

-- The History of the Virtual Showroom

The Virtual Showroom was created in 1996 and exploits the innovative services...

16/3,K/38 (Item 4 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

03500086 Supplier Number: 47222716 (USE FORMAT 7 FOR FULLTEXT)  
-WORLDVIEW SYSTEMS: Worldview launches Worldview Travel Network - An online travel hub for advertisers  
M2 Presswire, pN/A  
March 19, 1997  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 917

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

M2 PRESSWIRE-19 March 1997-WORLDVIEW SYSTEMS: Worldview Systems launches Worldview Travel Network - - An **online** travel hub for advertisers  
(C)1994-97 M2 COMMUNICATIONS LTD RDATE:190397 \* AdNet Strategies and NetGravity enable Worldview to personalize and manage ad service and performance for its travel-related **internet** properties In order to create a more personalized and integrated environment for advertisers, Worldview Systems Corporation, a leading publisher of **online** and interactive destination information, today announced its decision to **sell** and serve its own ads with the launch of the Worldview Travel Network (WTN) - an **online** network of **Web** sites that includes several of the biggest names in the travel industry. Worldview also announced the selection of the Los Angeles-based advertising **sales** firm AdNet Strategies to assist an inhouse advertising team in **selling** advertising space and sponsorships. NetGravity's leading AdServer management **software** has been selected to manage the target delivery of ads across the Network. Though in its infancy, WTN already includes Worldview's distribution partners: **Internet** Travel Network (ITN), Travelocity, UNIGLOBE **Online**, USA Today and CompuServe. Each has created a unique travel information product or service by integrating a mix of Worldview's more than 300,000 electronic pages of travel information. Worldview's **database** includes continuously updated venue and events updates, travelogues, chats and forums and a travel merchandise mall. Other special features within Worldview's content include weather...

...that links content, commerce and advertising," said Steve Bengston, vice president of marketing and business development at Worldview Systems. "By building an inhouse capability to **sell** and serve ads, Worldview can optimize ad placements by thematically matching the advertisers' message with the editorial content. Our users then have the choice to...

...increasingly demanding better ad targeting, placement and measurement," said John Danner, CEO of NetGravity. "NetGravity gives Worldview the tools

to deliver targeted advertisements to multiple **Web** sites, produce timely, accurate ad performance reports, and distribute these reports to advertisers **online**. NetGravity is committed to providing advertisers with reliable, accurate information in the report format they prefer. AdServer 3.0 includes a powerful, new reporting system that can generate ad performance reports directly into the formats requested by media **buyers** at major ad agencies such as Modem Media and Anderson & Lembke. "Data released by Jupiter Communications this month supports earlier predictions that **Web** advertising would grow into a \$5 billion-a-year advertising business by the year 2000. Jupiter reported that total **online** advertising revenues reached \$301 million in 1996, a 500 percent increase in such advertising over 1995. Of that total, \$260 million was spent on **Web**-based advertising, while the remaining \$41 million went to non-**Web**-based services such as America **Online** and PointCast. "As the **Internet** user demographic profile becomes more mainstream, the traveler will continue to be highly desirable as an affluent and educated target for advertisers," said Tim Waddell, Worldview's advertising manager. "Advertisers now have the option to **buy** targeted banner campaigns by site, destination or particular content feature or interest." Oscar Knows Becomes First Sponsor In addition to fixed or rotating banners that...

...with Worldview's own editorial content. About Worldview Systems Worldview Systems was founded in San Francisco in 1987. Today, Worldview Systems offers the largest proprietary **online** travel and entertainment **database** of events and attractions around the world. Worldview employs a team of correspondents and inhouse travel writers who gather, translate and prepare the information to ensure an "insider-perspective" on local activities and sights around the world. Worldview also produces live **online** travel chats, travel bulletin boards and a merchant mall where travel **accessories** can be **purchased online**. Worldview's growing list of **online** distribution partners includes Bloomberg Financial Markets, CompuServe, SABRE Interactive/Travelocity, UNIGLOBE Travel **Online** and USA Today. Worldview's information services include custom travel guidebooks and private-label arrangements. Worldview is a joint venture of Random House and Ameritech...

...Company information can be found at <http://www.wvs.com>. About Adnet Strategies AdNet Strategies, founded in August of '96, is one of the top **Internet** advertising **sales** firms in the country. With offices in Los Angeles and New York, AdNet provides representation for BigYellow, Mplayer, 100hot, Travelocity, Starting Point, fastWEB, The New York Times Syndicate, and **Car** Prices. Its list of advertisers is over 70 companies long including Visa, Disney, Honda, Toyota, Microsoft, AT&T, IBM, Hot Wired, JC Penney, and Ziff Davis. About NetGravity NetGravity, founded in September 1995 and based in San Mateo, Calif., is the proven leader in **online** advertising management **software**. Customers include Ameritech, Barron's **Online**, Bloomberg, Chicago Tribune, CondeNet, Forbes, Individual, Inc., iVillage, Mapquest, Progressive Networks, Nando.Net, National Geographic, NCN, Netscape, Newsday, Quote.com, The Red Herring's herring.com, Time Inc.'s Pathfinder, and The Travel Channel. NetGravity can be found on the World Wide **Web** at <http://www.netgravity.com>. CONTACT: Julia Glenister, Worldview Systems Tel: +1 415 391-7100 e-mail: [info@wvs.com](mailto:info@wvs.com) \*M2 COMMUNICATIONS DISCLAIMS ALL LIABILITY...

16/3,K/39 (Item 5 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

03451135 Supplier Number: 47110627 (USE FORMAT 7 FOR FULLTEXT)

**MISCELLANEOUS**

Set-Aside Alert, v5, n3, pN/A  
Feb 10, 1997

Language: English Record Type: Fulltext  
Document Type: Newsletter; Trade  
Word Count: 2839

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

...with two option periods. The designated base is White Swan, Washington. This has been set-aside 100% for small Indian Economic Enterprises pursuant to the **Buy** Indian Act. The due date is May 16, 1997. Contact Cindy Knickerbocker 208/387-5760, fax 208/387-5780. DOI, Office of Aircraft Services, PO...

...Paso, TX 79902-1441. SOL RFQ H-14-97. 72)The National Park Service, Harpers Ferry Center is in need of a contractor to provide **digital** imaging of outdoor wayside exhibit panels. The panels shall be imaged as electrostatic prints from government-furnished property. The government anticipates award of two indefinite...

...for small business, and the due date is March 17, 1997. Requests must be in writing and may be faxed to 304/535-6424 or **Internet** request to berthabraithwaire@nps.gov. The SIC code is 2759, and the size standard is 500-employees. For additional information contact Shelia Jordan 304...of equipment such as floating boat docks, repairs to depth gauging manometer systems, and thermistor strings/buoys; operate and tend a government-furnished Remotely Operated **Vehicle** system and operate government-furnished underwater centrifugal jetting pumps. This has been set-aside 100% for small business, and the due date is March 21...

...Veterans Affairs Medical Center, Prosthetic Service in Long Beach, California is in need of a contractor to provide services for storage delivery, set-up and **pickup** of government-owned Home Care Medical Equipment/**Accessories** to patient's homes as directed. This will be a one-year contract with one option period. The contractor must be JCAHO accredited. This has...and may be placed on the State Dept.'s electronic bulletin board site, accessible via dial-up modem at 703/875-4945 and on the **Internet** . If you wish to be placed on a list for electronic access to the RFP on the **Internet** , send an e-mail message to Paulette Donnelly at paulette.donnelly@dos.us-state.gov. The due date is March 15, 1997. Contracting officer is...

16/3,K/40 (Item 6 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

03259343 Supplier Number: 46688113 (USE FORMAT 7 FOR FULLTEXT)  
**CHRYSLER CUTS CAR DEALERS IN ON NEW "INSTANT" WEB SITES Carmaker Links**  
**Dealer Pages With Branded Product Sites**  
Interactive Marketing News, v3, n22, pN/A  
Sept 6, 1996  
Language: English Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count: 1042

... our dealers," he says, "it also ties into all our other interactive marketing initiatives since Chrysler went on the web 16 months ago."

What the **car buying** prospect sees, of course, is critical. In the Chrysler program, he/she first gets advance access to a vast trove of **car buying** information -- **make , model , color, options , suggested list price**. This takes place long before the consumer ever sees a showroom. Now, when the dealer program goes **online** , the interested consumer will also have links to **web** pages that make dealerships look like consummate interactive marketing pros. Even when they're not.

"This is important," Everett tells us, "because it gives the...

16/3,K/41 (Item 7 from file: 636)

DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

02406385 Supplier Number: 44767746 (USE FORMAT 7 FOR FULLTEXT)  
**Parsons Offers Car, Home Buying Software Help 06/17/94**  
Newsbytes, pN/A  
June 17, 1994



Language: English      Record Type: Fulltext  
Document Type: Newswire; General Trade  
Word Count:    383

... after assuming a mortgage, and a Living Index feature that compares the cost of living and other expenses for various areas across the country.

The **Car Buyer 's Companion** comes with a **database** of nearly two hundred 1994 **cars**, **trucks**, and **vans**. The user selects the price range they want and preferences like foreign or domestic manufacturer and front or rear **wheel** drive. One can even **select** a specific **make** and **model**. The **software** offers information about **vehicles** that meet one's specifications, including a price range and fuel economy.

A Payment Estimator calculates payments based on price, down payment, and interest rates...

16/3,K/42      (Item 8 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

01995959      Supplier Number: 43584308 (USE FORMAT 7 FOR FULLTEXT)

**South Bank Software for Clients Car-Specs Choice**

PRS Automotive Service, pN/A

Jan 15, 1993

Language: English      Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count:    101

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

**Software** designers at South Bank University in London are developing a **software** system which would allow new **car buyers** to **choose** any combination of **car** specifications and **accessories** in the show room. The information would be transmitted directly to the factory, where the order would be fulfilled within a short period of time. South Bank engineers are currently holding talks with Rover on this ultimate just-in-time **software**. The University is also developing the programme for the construction sector, where houses could be built to individual specification.

16/3,K/43      (Item 9 from file: 636)  
DIALOG(R)File 636:Gale Group Newsletter DB(TM)  
(c) 2001 The Gale Group. All rts. reserv.

01408876      Supplier Number: 41828055 (USE FORMAT 7 FOR FULLTEXT)

**Future ABS Market Wider with Improved Electronics**

PRS Automotive Service, pN/A

Jan 31, 1991

Language: English      Record Type: Fulltext  
Document Type: Magazine/Journal; Trade  
Word Count:    628

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

The ABS systems will be included in most types of **cars** by the year 2000, and continuous research projects are in place to increase the systems reliability on electronic control units (ECU). Adopting higher performance micro...

...regulating suspension systems. The adoption of more electronic components within the ABS system will also mean that a system can easily be adapted to other **car** models. **Car** manufacturers expect greater efforts by ABS suppliers in research and development, and greater co-operation in their engineering efforts. In return they are offering longer contracts and security to ABS suppliers, but must respond to consumer demands for the increased safety the ABS systems **sold** at lower prices. The typical ABS system has three basic components; wheel-speed sensors, brake modulators and an ECU. In the wheel-speed sensor there is a toothed **wheel** and an

inductive **pick** -up, where the rotational speed of the **wheel** is translated into a sinusoidal waveform proportional to wheel speed. From a frequency of between 0 and 4,000 Hz the waveform provides details of wheelspeed to the ECU. To achieve fast reaction in a wheel lock case, the information transmitted through interface circuitry within the ECU will become **digital** square wave, for the MPU to use. To cut costs, research is going into developing a sensor that can interface directly with the MPU. Integrated...

...improved MPU, to maintain the reduced processing time of a single signal. Increased data processing capability is also very important for ABS to work on **vehicle** travelling speeds of up to 240kmh. More diagnostics are also required to be inserted in the system. The I/O are the communication channels between...

16/3,K/44 (Item 1 from file: 637)  
DIALOG(R)File 637:Journal of Commerce  
(c) 2001 Journal of Commerce Inc. All rts. reserv.

#### **Export Opportunities**

JOURNAL OF COMMERCE (JC) - May 26, 1993  
By: Information Supplied by the U.S. Dept. of Commerce  
Edition: Five Star Section: TRADE Page: 6B  
Word Count: 2347

... eligible bidders for supply of 10 minibuses, 3 small cars; 47 4-wheel-drive station wagons, 8 4-wheel-drive pick-ups, 16 trailer box **cars** ; 2 **trucks** 8 mt, 1 **truck** 8 mt hydraulic loading platform; 16 ambulances; 93 bicycles; office equipment (**computers** and **software** ); medical equipment and instruments. Interested eligible bidders can obtain further information/ **purchase** bidding documents on submission of written application and payment of non-refundable fee of Z\$50 (approx. US\$9) to address below. Sealed bidding documents...

.File 146:Washington Post Online 1983-2001/Sep 14  
(c) 2001 Washington Post  
File 387:The Denver Post 1994-2001/Sep 13  
(c) 2001 Denver Post  
File 471:New York Times Fulltext-90 Day 2001/Sep 14  
(c) 2001 The New York Times  
File 492:Arizona Repub/Phoenix Gaz 19862001/Sep 08  
(c) 2001 Phoenix Newspapers  
File 494:St LouisPost-Dispatch 1988-2001/Sep 11  
(c) 2001 St Louis Post-Dispatch  
File 498:Detroit Free Press 1987-2001/Sep 12  
(c) 2001 Detroit Free Press Inc.  
File 630:Los Angeles Times 1993-2001/Sep 15  
(c) 2001 Los Angeles Times  
File 631:Boston Globe 1980-2001/Sep 13  
(c) 2001 Boston Globe  
File 632:Chicago Tribune 1985-2001/Sep 14  
(c) 2001 Chicago Tribune  
File 633:Phil.Inquirer 1983-2001/Sep 13  
(c) 2001 Philadelphia Newspapers Inc  
File 638:Newsday/New York Newsday 1987-2001/Sep 13  
(c) 2001 Newsday Inc.  
File 640:San Francisco Chronicle 1988-2001/Sep 14  
(c) 2001 Chronicle Publ. Co.  
File 641:Rocky Mountain News Jun 1989-2001/Sep 08  
(c) 2001 Scripps Howard News  
File 702:Miami Herald 1983-2001/Sep 13  
(c) 2001 The Miami Herald Publishing Co.  
File 703:USA Today 1989-2001/Sep 13  
(c) 2001 USA Today  
File 704:(Portland)The Oregonian 1989-2001/Sep 13  
(c) 2001 The Oregonian  
File 713:Atlanta J/Const. 1989-2001/Sep 14  
(c) 2001 Atlanta Newspapers  
File 714:(Baltimore) The Sun 1990-2001/Sep 13  
(c) 2001 Baltimore Sun  
File 715:Christian Sci.Mon. 1989-2001/Sep 14  
(c) 2001 Christian Science Monitor  
File 725:(Cleveland)Plain Dealer Aug 1991-2000/Dec 13  
(c) 2000 The Plain Dealer  
File 735:St. Petersburg Times 1989- 2000/Nov 01  
(c) 2000 St. Petersburg Times  
File 476:Financial Times Fulltext 2001/Sep 14  
(c) 2001 Financial Times Ltd.  
File 477:Irish Times 1999-2001/Sep 13  
(c) 2001 Irish Times  
File 710:Times/Sun.Times(London) Jun 1988-2001/Sep 14  
(c) 2001 Times Newspapers  
File 711:Independent(London) Sep 1988-2001/Sep 14  
(c) 2001 Newspaper Publ. PLC  
File 756:Daily/Sunday Telegraph 2000-2001/Sep 12  
(c) 2001 Telegraph Group  
File 757:Mirror Publications/Independent Newspapers 2000-2001/Sep 14  
(c) 2001

Set	Items	Description
S1	3052228	VEHICLE? OR AUTOMOBILE? OR AUTOMOTIVE OR (CAR OR CARS OR V-AN OR VANS OR SUV OR SUVS)/FW OR TRUCK? ?
S2	739832	ACCESSOR? OR OPTIONS OR WHEEL? ? OR OPTIONAL(3W) (EQUIPMENT OR FEATURE? ?) OR EQUIPMENT(2W) PACKAGE??
S3	4621118	PREVIEW? OR VISUAL? OR TRY?(3W)OUT OR (DISPLAY? OR SHOW? OR DEPICT?) (3N) (APPEAR? OR INSTALL? OR IMAGE? ? OR PICTURE? ? OR REPRESENTATION? OR GRAPHIC OR LOOK??) OR SEE/FW OR SEEING
S4	214696	(SELECT? OR PICK? OR LIST? OR MENU? OR PULL()DOWN OR PULLDOWN OR CHOOS? OR CHOSEN) (7N) (MAKE? ? OR VEHICLE? OR PARTS OR -WHEEL? ? OR ACCESSORIES OR MODEL??? OR STYLE)
S5	84	S1(5N)S2(S)S3(S)S4
S6	19037	AUTOBYTEL OR AUTOBY()TEL OR PIT()STOP OR EDMUNDS OR PITSTOP

.  
 S7           16    OR AUTOWARE() TECHNOLOGIES  
               16    S5(S) (S6 OR INTERNET? OR ONLINE OR ON() LINE OR DATABASE? OR  
                       DATA() BASE? OR SOFTWARE OR AUTOMATE? OR VIRTUAL OR DIGITAL OR  
                       COMPUTER? OR WEB OR WEBPAGE? OR WEBSITE? OR PRODIGY OR MINIT-  
                       EL OR VIDEOTEX?)  
 S8           8     S7 NOT PY=2000:2001  
 S9           7     S8 NOT PD=19990922:19991231  
 S10          354    S1(5N) S2(S) S4(S) (BUY? OR SELL??? OR PURCHAS? OR SALE OR SA-  
                       LES OR SOLD OR BOUGHT OR (SHOPPING OR VIRTUAL) (2W) (CART? ? OR  
                       KART? ?))  
 S11          42    S10(S) (S6 OR INTERNET? OR ONLINE OR ON() LINE OR DATABASE? -  
                       OR DATA() BASE? OR SOFTWARE OR AUTOMATE? OR VIRTUAL OR DIGITAL  
                       OR COMPUTER? OR WEB OR WEBPAGE? OR WEBSITE? OR PRODIGY OR MIN-  
                       ITEL OR VIDEOTEX?)  
 S12          26    S11 NOT PY=2000:2001  
 S13          25    S12 NOT PD=19990922:19991231  
 S14          20    S13 NOT S7  
 ?

9/3,K/1 (Item 1 from file: 387)  
DIALOG(R)File 387:The Denver Post  
(c) 2001 Denver Post. All rts. reserv.

00609005 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Pontiac Sunfire gets a new glow Styling, features very appealing**

John Eaton

Denver Post, FRI1 ED, P H-01

Friday, June 23, 1995

DOCUMENT TYPE: NEWSPAPER; REVIEW LANGUAGE: ENGLISH RECORD TYPE:

FULLTEXT SECTION HEADING: AUTO

Word Count: 1,079

TEXT:

...and aluminum wheels to the king of the hill, the 16-inch (yes, 16-inch) cast aluminum wheels on the GT Coupe.

Those tires and **wheels** on such a petite **vehicle** sound like the personification of aggression, and they should embellish the already fine handling.

The tire lineup is as wide and is tailored to fit...

...on all Sunfires fitted with the 2.3-liter Quad 4 engine. This transmission will include Enhanced Traction Control, a design that, in brief, detects **wheel** spin and through a **computer** chooses the desired **wheel** torque to better cope with the icy, snowy or slick surface.

Incidentally, the traction control can be turned off if the driver chooses to neuter...

...chosen for many "entry-level" cars.

Ease of entry and exit win no prizes and this will be the low point for many potential buyers. **See** how your body works.

But the seating is comfortable and the front buckets have nearly a surplus of side support. If you like seats that...

9/3,K/2 (Item 2 from file: 387)  
DIALOG(R)File 387:The Denver Post  
(c) 2001 Denver Post. All rts. reserv.

00212403 (USE FORMAT 7 OR 9 FOR FULLTEXT)

**Firms get break on data rates US West's new service expands phone line capacity**

Dinah Zeiger, Denver Post Business Writer

Denver Post, TUE1 ED, P C-01

Tuesday, April 19, 1994

DOCUMENT TYPE: NEWSPAPER LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

SECTION HEADING: BUSINESS

Word Count: 570

(USE FORMAT 7 OR 9 FOR FULLTEXT)

...of traffic

- from 18-wheel tractor-trailer trucks, to panel vans, to family cars to motorcycles - flow at varying speeds. Each gets off at its **chosen** exit.

On the ISDN highway, instead of **vehicles**, information is digitally compressed into "packages" that run along the lanes. At varying destinations, the "packages" exit as voice signals, **computer** data, graphics or pictures.

But a traffic crunch has been building up over the last five years as more computer data jockeys for position on...

9/3,K/3 (Item 1 from file: 632)

DIALOG(R)File 632:Chicago Tribune

(c) 2001 Chicago Tribune. All rts. reserv.

02115834

**On the outdoors - Go Southwest, but heed these pointers**

Chicago Tribune (CT) - WEDNESDAY August 11, 1993

By: John Husar

Edition: NORTH SPORTS FINAL Section: SPORTS Page: 7

Word Count: 847

TEXT:

...Southwest, here are a few final points I wish to make:

- Book your whitewater raft trips early. A year is best, although you often can **make** good **selections** during the International Adventure Travel Show in Chicago in January. More people are surprised and disappointed when they arrive at the Colorado, Snake or Rio...

...allowed to camp in each. Treks through two or more areas require a lot of schedule leeway for National Park Service backcountry staffers and their **computer**. Best give them a range of ideal dates and routings and let them work you in. Otherwise, you get a flat yes or no-either...

...is the so-called "Arizona Strip," some 11,000 open acres of hilly desert north of the Grand Canyon. This is the vast land you **see** when the jet leaves Las Vegas and rises northeasterly above Lake Mead. I once followed from above a lonely dirt road to nowhere. The road...

...at least 80 miles with no sign of human occupation, circling to end atop a barren hill. I've often thought of renting a four-wheel -drive **vehicle**, equipping it with extra cans of gas and water and camping there for a week to soak in the wonders of desert wildlife. Operated by...

9/3,K/4 (Item 1 from file: 641)

DIALOG(R)File 641:Rocky Mountain News

(c) 2001 Scripps Howard News. All rts. reserv.

08766081

**ROCK 'N' ROLL FANTASY CAMP CAN MAKE 'STARS' OF THE UNTALENTED**

Rocky Mountain News (RM) - Sunday, September 22, 1996

By: Michael Mehle Rocky Mountain News Staff Writer

Edition: Final Section: Spotlight Page: 8D

Word Count: 654

...fan a chance to fulfill a few dreams.

Here's the pitch from the camp's brochure: ``Do you sit at home or behind the **wheel** of your **car** **listening** to your favorite music, singing or playing along with the music? When you **see** Billy Joel or Elton John perform, do you wonder what it would be like to live in their rock 'n' roll world? Would you like to record and mix on the latest **digital** equipment?''

If the answer's yes, then make your plane reservations for Los Angeles (Feb. 17-23 and Feb. 24-March 2), Miami (March 31...

9/3,K/5 (Item 1 from file: 713)

DIALOG(R)File 713:Atlanta J/Const.

(c) 2001 Atlanta Newspapers. All rts. reserv.

09649003

**SOME CAR REPAIRS MAY WARRANT SECOND OPINION**

Atlanta Journal-CONSTITUTION (AJ-CONSTITUTION) - Friday, May 29, 1998

By: Linda Sharp

Section: Wheels Page: S/(CONSTITUTION): 02

Word Count: 576

TEXT:

... under some circumstances, I can be just as lost at the repair shop as the next guy. I own a 1978 crew-cab dual rear **wheel pickup truck**. Obviously, it is not new, but it is in excellent shape. With tender loving care, I don't **see** why I can't expect to drive it another 217,000 miles. A few months back, it started to develop a front-end shimmy. When...

... for The Atlanta Journal-Constitution. Write her in care of Wheels, The Atlanta Journal-Constitution, P.O. Box 4689, Atlanta, GA 30302. Or send comments **online** to sharpdriver@worldnet.att.net

9/3,K/6 (Item 2 from file: 713)

DIALOG(R)File 713:Atlanta J/Const.

(c) 2001 Atlanta Newspapers. All rts. reserv.

09633002

**BUSINESS IN BRIEF DELTA RECEIVES CLEARANCE FOR ATLANTA-TO-TOKYO NONSTOP FLIGHTS**

ATLANTA Constitution Journal (ATLANTA Constitution Journal) - Wednesday, May 13, 1998

Section: Business Page: B/(CONSTITUTION): 03, (JOURNAL): 03

Word Count: 936

TEXT:

... fell to 19.9 last month, compared with a revised 29.5 in March. A positive index means more of the region's manufacturers reported **seeing** increases in production than declines. Separately, the Atlanta Fed's regional production index rose to 26.0 from a revised 17.0, indicating manufacturing activity increased. THE NATION Ford to recall 1.7 million vehicles Ford said Tuesday it is recalling 1.7 million **pickups** and sport-utility **vehicles** because a faulty lug nut could cause the **wheels** to separate from the **vehicles**. Four injuries have been reported. The voluntary recall involves F-150 pickups and most F-250 pickup trucks and the Expedition and Navigator sport-utility...

... retirement plan administrator based in Florida. Terms were not disclosed. United States Pension Services specializes in servicing retirement plans with fewer than 100 participants. First **Data**, based in Hackensack, N.J., provides processing services. Tyco Submarine wins \$1.2 billion contract Tyco International's Submarine Systems unit won a \$1.2 billion...

9/3,K/7 (Item 1 from file: 710)

DIALOG(R)File 710:Times/Sun.Times(London)

(c) 2001 Times Newspapers. All rts. reserv.

12763091

**CAR SALES WORTH A VIRTUAL LOOK;MOTORING;CARMART**

Times of London (TL) - Saturday, September 20, 1997

By: Stuart Birch

Section: Features

Word Count: 486

... great, but is this just another piece of whimsical technology that is decades away? "Not at all," says Alec Williams, UK Customer Manager for Delphi **Automotive** Systems. "Lengthening **options** **lists** mean that demonstrator **vehicles** will be less and less representative of what customers are really buying. **Virtual** reality can bridge the gap between the car they **see** in a showroom and what they really want."

Ford has also said it is thinking along similar lines, with customers eventually being able to take...

14/3,K/1 (Item 1 from file: 146)  
DIALOG(R)File 146:Washington Post Online  
(c) 2001 Washington Post. All rts. reserv.

207810

DREAM MACHINES -The Auto's Funny Fancy for Fours

The Washington Post, October 04, 1987,

By: Brock Yates

Section: Washington Post Magazine, p. w77

Line Count: 84 Word Count: 930

... factor in the automotive product mix. Any number of carmakers, here and abroad, are following the lead of manufacturers such as Audi by offering four-wheel drive in passenger cars. The vast majority of passenger cars are pushed by the rear two wheels (rear-wheel drive) or pulled by the front two wheels (front-wheel drive). Four-wheel drive, in which all four wheels drive the car, was heretofore believed to be useful only for off-road addicts, campers, hunters and construction workers. Then exotic machines like the Audi Quattro opened a new market for drivers who desire maximum road-holding under all weather conditions. Adapting four-wheel drive to passenger cars has brought a revolution in ease of operating. Instead of stopping the car, getting out and locking in the front hubs by hand to activate...

... wheel drive for normal conditions, four-wheel drive when the going gets tough. Numerous carmakers, including Ford, Porsche, Toyota, Mazda and Subaru, are making four-wheel-drive passenger cars, and more manufacturers are sure to follow, including Mercedes-Benz, which is working on a computer-controlled system that will automatically select the proper two- or four-wheel drive depending on the weather and road surface. The four-wheel-drive technology owned by AMC/Renault's Jeep Division was a primary reason for the purchase of the firm by Chrysler Corp. Lee Iacocca, like dozens of his counterparts in the worldwide car business, believes four-wheel drive will become a major market factor in years to come.

Honda recently introduced four-wheel steering on its Prelude. The Japanese have been fascinated...

14/3,K/2 (Item 1 from file: 387)  
DIALOG(R)File 387:The Denver Post  
(c) 2001 Denver Post. All rts. reserv.

00696321 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Shopping for a used PC

William Husted, Computers & High Tech

Denver Post, MON1 ED, P E-12

Monday, November 10, 1997

DOCUMENT TYPE: NEWSPAPER; COLUMN LANGUAGE: ENGLISH RECORD TYPE:

FULLTEXT SECTION HEADING: BUSINESS

Word Count: 615

(USE FORMAT 7 OR 9 FOR FULLTEXT)

...offer

a warranty - one of the most valuable parts of the deal.

I recommend that you come up with a list of specifications for the computer you want. Again, there are similarities with buying a car. The accessories, or lack of them, have a big impact on what the machine is worth. Be specific. Make a list that includes the amount of RAM you need, the size of the hard disk and the type of monitor. For a starter machine, most people...

14/3,K/3 (Item 1 from file: 492)



. DIALOG(R)File 492:Arizona Repub/Phoenix Gaz  
(c) 2001 Phoenix Newspapers. All rts. reserv.

10041170

**TEMPE CAR STEREO STORE IS MAKING A NOISE**

Arizona Republic (AR) - Wednesday, February 10, 1999  
By: Monica Davis, Special for The Republic  
Edition: Final Section: Chandler Community Page: EV14  
Word Count: 1,274

**CAPTION:**

... BUSINESS: Manufacturing and distribution of mobile audio installation accessories.

LEADERSHIP: Scott Deley, president; Larry VanSickel, executive vice president of operations; Michael Johnson, vice president of **sales** and marketing; and Shelly Holanda, controller.

FOUNDED: 1993.

EMPLOYEES: Tempe: 20; Taiwan: 10.

**SALES** : In first year: \$658,000; last year \$5.3 million plus; current year estimate, \$7 million.

CUSTOMERS: About 1,400 nationally and 40 international distributors.

ADDRESS: 1835 E. Sixth St., Suite 6, Tempe, AZ 85281.

PHONE: (602) 966-8278.

FAX: (602) 966-0393.

E-Mail: Sdeley@lightningaudio.com

**Web** address: www.lightningaudio.com

**2) HOW WE DID IT**

Initial investment:

\$250,000.

Best advice I ever received:

Broaden our distribution. Keep our receivables spread...

... our industry by building a strong brand image through our advertising and marketing style. A perfect reflection of this is our state-of-the-art

**Web** site, which has received a lot of attention from both the **Web** community and the 12-volt industry. The excitement created by our marketing attracts a lot of talented employees to Lightning Audio. All of our best...

... teamwork within our organization help to keep our employees interested and enthusiastic.

If Deley could do anything over again, he would:

Be more careful in **choosing** my business partners. I would **make** sure a solid shareholder's agreement was in place to protect all parties and investors. I would put everything in writing.

How we attract good...

...this can affect our cash flow. I hate wearing my collection agent hat.

In five years, we want to be:

The market leader in home, **computer** and **car** electronic **accessory** products. Our eventual goal is to diversify our business into a broader range of consumer electronic products.

Sounds of success. Scott Deley (right) launched Lightning...

**14/3,K/4 (Item 2 from file: 492)**

DIALOG(R)File 492:Arizona Repub/Phoenix Gaz  
(c) 2001 Phoenix Newspapers. All rts. reserv.

07762254

**BITS**

Arizona Republic (AR) - MONDAY, September 19, 1994  
By: Compiled from reports by Lakeland (Fla.) Ledger, The Arizona Republic and The Associated Press.  
Edition: Final Chaser Section: Business Computing Page: E1

. Word Count: 571

...000 luxury tax - would be \$7,334.

Perhaps something in the \$7,000-to-\$10,000 range is more within the budget? If so, Car **Buyers** ' Companion for Windows from Parsons **Software** can locate offerings in that price range - or any other - quickly. A variety of categories can be specified: two- or four-doors, wagons, convertibles, minivans or **pickups** . Front-, rear- or four-wheel drive. It has about 200 **cars** in its **database** .

ONLINE

APPLE COMPUTER EXPANDS EWORLD ONLINE SERVICE

Apple Computer Inc. is expanding its eWorld online service outside the United States and offering incentives to gain...

14/3,K/5 (Item 3 from file: 492)

DIALOG(R)File 492:Arizona Repub/Phoenix Gaz  
(c) 2001 Phoenix Newspapers. All rts. reserv.

06608398

**TANDY TO BUILD BIG COMPUTER STORES**

Phoenix Gazette (PG) - FRIDAY April 17, 1992

By: From THE PHOENIX GAZETTE news services

Edition: MIDDAY Section: Business Page: C9

Word Count: 97

TEXT:

Tandy Corp. said it would start building electronics and **computer** stores that are the size of discount warehouses. The stores, to be called Incredible Universe, will have about 100,000 square feet of **selling** space and employ about 300 people each. Tandy Chairman John Roach said that the stores will **sell** the largest **selection** of home and **car** electronics, **computers** and **accessories** at competitive prices. Each store will have child-care and restaurant facilities. A large rotunda in each will be used for demonstrations, displays and programs...

14/3,K/6 (Item 4 from file: 492)

DIALOG(R)File 492:Arizona Repub/Phoenix Gaz  
(c) 2001 Phoenix Newspapers. All rts. reserv.

06607130

**TANDY TO BUILD BIG COMPUTER STORES**

Phoenix Gazette (PG) - THURSDAY April 16, 1992

By: From THE PHOENIX GAZETTE news services

Edition: FINAL Section: Business Page: C1

Word Count: 99

TEXT:

Tandy Corp. said it would start building electronics and **computer** stores that are the size of discount warehouses. The stores, to be called Incredible Universe, will have about 100,000 square feet of **selling** space and employ about 300 people each. Tandy Chairman John Roach said that the stores will **sell** the largest choice of **selection** of home and **car** electronics, **computers** and **accessories** at competitive prices. Each store will have child-care and restaurant facilities. A large rotunda in each will be used for demonstrations, displays and programs...

14/3,K/7 (Item 1 from file: 494)

DIALOG(R)File 494:St LouisPost-Dispatch  
(c) 2001 St Louis Post-Dispatch. All rts. reserv.

09190030

**NEW TECHNOLOGY SERVICES OFFERED THREE FIRMS HERE COLLABORATE ON 'NET**

. St. Louis Post Dispatch (SL) - Wednesday, July 9, 1997  
By: Virginia Baldwin Hick  
Of The Post-Dispatch Staff  
Edition: FIVE STAR LIFT Section: BUSINESS Page: 01C  
Word Count: 722

... picks up product and calls the courier. You could have the product out in a matter of hours - or minutes."

They also envision products being **sold** to auto dealers, for instance, so that visitors to a dealer's **Web** site could **pick** out their dream **car** - make, **model**, **options**, color - and then click a button to talk to a salesperson right **online** to make a deal.

Or a company that offers customer support service for products it has already sold could offer an option at the end...

14/3,K/8 (Item 1 from file: 630)  
DIALOG(R)File 630:Los Angeles Times  
(c) 2001 Los Angeles Times. All rts. reserv.

00806273 (USE FORMAT 7 FOR FULLTEXT)

**Most of Us Are Not Farmers or Cowboys or Contractors. Yet the Two Top-Selling vehicles in the Country Are Pickups. American Pickups. What Is This About?**

JOHN BALZAR, John Balzar is a Times national correspondent. He once owned a 1937 Chevrolet pickup but now drives a Honda Civic  
Los Angeles Times , Home Edition ed, p10  
Sunday September 15, 1996  
SECTION HEADING: Times Magazine Desk  
WORD COUNT: 4030

... the wealthier parts of Houston. People have traded up their Lincolns and Cadillacs for a pickup and a Lexus import," says David Lantz, an automotive **prodigy**. At 12 years old, he began publishing a newsletter called Auto Center Monthly. Now, six years later, Lantz is a high school student, pickup truck...else except a pickup. That's the way I am, I can't imagine having anything else. Wouldn't know what to do." The Texas **pickup** is "lifted," not lowered in the **style** of California. "People here look at one of those lowered trucks, and they say, 'Well, shut my mouth. What's the point?' " says Lantz. The official Texas **truck** would also have four-wheel -drive, oversize wheels and tires, a brush guard over the grille like industrial dental braces, add-on halogen lights fastened as high and as many...

...coming. Hot Rod custom car designer Boyd Coddington of Stanton, Calif., has licensed his name to a Texas company to produce a "Boyd-look" California **pickup** --lowered, with custom **wheels** and fancy paint. This for the customer who cannot afford \$100,000 for an all-out Coddington original. And as any commuter knows, there are...

...concerns. Off-pavement is the preferred term for those who insist. On-roader David Molina is the proud possessor of an original Marlboro promotional truck, **purchased** secondhand from the cigarette manufacturer--a fire-red 1993 Chevy Silverado, 4WD, V8, chrome roll bar, fog lights, brush guard and a two-inch lift...

...he drives each Friday from his home in Rancho Cucamonga to his studio in Glendale, where he is vice president of Creative Capers Entertainment, a **computer** animation company. He thought about **buying** a lowered California truck, but then knew he would worry about getting such a pretty thing scratched. Besides, he and his partners created cartoon characters...

. ...an

extension of that fantasy. It's a truck that says, 'Go ahead and dent me.' " And no, he has not yet used the four-wheel drive.

Even the Japanese are feeling the **pickup** craze. Taku Nakasaka is one of several, perhaps more, businessmen who comb Southern California buying up the best fully accessorized California-look pickups and shipping...

14/3,K/9 (Item 1 from file: 631)  
DIALOG(R)File 631:Boston Globe  
(c) 2001 Boston Globe. All rts. reserv.

00539032

**A NEW COMPUTER-STORE ENTRY DATA GENERAL PLANS NETWORK TO SELL ITS  
SMALL-BUSINESS SYSTEMS**

BOSTON GLOBE (BG) - THURSDAY May 29, 1980  
By: Ronald Rosenberg Globe Staff  
Edition: N Section: ECONOMY  
Word Count: 672

TEXT:

For the butcher, the baker and the candlestick maker, **buying** a business **computer** system will be almost as easy as choosing **options** for a pick-up **truck** or van: go to the showroom, **pick** out the **model**, **choose** the options and arrange financing on the spot.

Simple as it may sound, Data General Corp. claims small businesses have endorsed the computer retail store...

14/3,K/10 (Item 1 from file: 632)  
DIALOG(R)File 632:Chicago Tribune  
(c) 2001 Chicago Tribune. All rts. reserv.

09331168

**A USED COMPUTER CAN BE A SMART CHOICE**

Chicago Tribune (CT) - THURSDAY, November 27, 1997  
By: Bill Husted, Cox News Service.  
Edition: DU PAGE Section: TEMPO Page: 9C  
Word Count: 588

...the warranty is one of the most valuable parts of the deal.

I recommend that you come up with a list of specifications for the **computer** you want. Again, there are similarities with **buying** a **car**. The **accessories**, or lack of them, have a big impact on what the machine is worth. Be specific. **Make** a **list** that includes the amount of RAM you need, the size of the hard disk and the type of monitor. For a starter machine, most people...

14/3,K/11 (Item 1 from file: 641)  
DIALOG(R)File 641:Rocky Mountain News  
(c) 2001 Scripps Howard News. All rts. reserv.

05537330

ROCKY MOUNTAIN NEWS (RM) - SUNDAY JULY 22, 1990  
By: COMPILED BY MICHELLE SCHNEIDER ROCKY MOUNTAIN NEWS STAFF WRITER  
Edition: FINAL Section: BUSINESS Page: 8B  
Word Count: 381

...specializes in computing services that are free to consumers, will begin offering the public a free computerized locator service.

Anyone with a modem and a **computer** can call the system and search dealer inventories for new and used cars and trucks. The system will allow **buyers** to find **vehicles** by **make**, **model**, year and color. The **listing**, called ProTcom, will also include the **options** and features on

. each **vehicle** , as well as its location.

The system, expected to be available starting Aug. 15, will be updated daily and accessible 24 hours a day. For...

14/3,K/12 (Item 1 from file: 703)  
DIALOG(R)File 703:USA Today  
(c) 2001 USA Today. All rts. reserv.

08647957

**Look out, drivers: It's auto gadget season**  
USA TODAY (US) - MONDAY November 02, 1998  
By: Earle Eldridge  
Edition: FINAL Section: MONEY Page: 15B  
Word Count: 787

... car. A \$146.99 'truck accessory' permits the Driv'nPlow to work on pickups and sport-utility vehicles. President Thome Matisz says Pittsburgh-based Solotec **sells** Driv'nPlow through its **Web** site, www.solotec.com, or by calling 888-765-6832. Matisz says Driv'nPlow is great for plowing long driveways but is not intended for...

14/3,K/13 (Item 2 from file: 703)  
DIALOG(R)File 703:USA Today  
(c) 2001 USA Today. All rts. reserv.

08608898

**GM lets buyers browse dealer lots on Internet**  
USA TODAY (US) - FRIDAY THROUGH SUNDAY September 05, 1997  
By: Elliot Blair Smith  
Edition: FINAL Section: MONEY Page: 02B  
Word Count: 249

TEXT:

... year with the help of the Internet, General Motors announced Thursday its own computer-based marketing vehicle.

The automaker said that beginning Oct. 15, car **buyers** in four states -- California, Washington, Oregon and Idaho -- will be able to 'virtually' browse dealers of their choice, **selecting** car make, model and **options** by computer. **Buyers** still will have to negotiate price, however.

14/3,K/14 (Item 1 from file: 704)  
DIALOG(R)File 704:(Portland)The Oregonian  
(c) 2001 The Oregonian. All rts. reserv.

09537317

**A LITTLE HOMEWORK CAN REDUCE THE FEAR, PITFALLS OF BUYING A USED COMPUTER**  
Oregonian (PO) - Friday, February 6, 1998  
By: BILL HUSTED - Cox News Service  
Edition: SUNRISE Section: LIVING Page: E04  
Word Count: 613

TEXT:

...the warranty is one of the most valuable parts of the deal.

I recommend that you come up with a list of specifications for the **computer** you want. Again, there are similarities with **buying** a car. The **accessories** , or lack of them, have a big impact on what the machine is worth. Be specific. **Make** a list that includes the amount of RAM you need, the size of the hard disk and the type of monitor. For a starter machine, most people...

14/3,K/15 (Item 1 from file: 713)  
DIALOG(R)File 713:Atlanta J/Const.  
(c) 2001 Atlanta Newspapers. All rts. reserv.

09642157

#### **NUTS & BOLTS LITTLE RUGGED TRUCKS CRASH LIKE WIMPS**

Atlanta Journal-CONSTITUTION (AJ-CONSTITUTION) - Friday, May 22, 1998  
Section: Wheels Page: S/(CONSTITUTION): 02  
Word Count: 923

#### **TEXT:**

...the GMC Sonoma and Isuzu Hombre, both variations of the S-10. Automakers vigorously disputed the results, which many consumers refer to when considering a **purchase**. The institute defines crashworthiness as how well a vehicle can protect people in a crash. The tests were primarily via a 40 mph frontal offset...

... in the United States and 1,600 in Canada to replace a battery tray and reroute some electrical wires. The recall affects all New Beetles **sold** since the car went on **sale** in March. Wires in the engine compartment could be damaged by rubbing against the edge of the battery tray, Volkswagen said. The chafing could cause...

... the applicants. Hiring will begin in January 1999. Faulty lug nuts prompt Ford recall Ford Motor Co. is recalling 1.7 million of its best-selling pickups and sport-utilities because faulty lug nuts could cause the **wheels** to fall off the **vehicles**. The recall covers all 1997 Ford F-150 and light-duty F-250 pickups, Ford Expeditions and Lincoln Navigators; 1998 Expeditions and Navigators built through...

... uses a different platform from the recalled models. Ford is replacing the faulty lug nuts with new nuts that use a different type of coating.

**Buy** an automobile and go for a flight Dealers are luring new customers with the chance to earn frequent-flier miles. The year-old program, which ...

... kind, is offered to American Airlines AAdvantage Club members through Member Services Inc. of Bentonville, Ark., an affinity marketing company that also handles the car-**buying** service for Wal-Mart Stores Inc. Frequent-flier club members earn one mileage credit for every \$4 spent when they **buy** or lease a new or used vehicle from dealers participating in the AAdvantage Auto & Recreational Program. About 450 dealers in 56 cities are involved in the AAdvantage program. Participants agree to offer club members a competitive, no-haggle price. AutoConnect takes to the **Internet**

AutoConnect, a used-car **Web** site formed by Manheim Auctions and the Dealer Services Group of Automatic Data Processing Inc., opened to the public this week. The **Web** site has 5,500 auto dealers signed up. It is patterned after newspaper classified ads. Dealers list cars for free, and the site will be supported by display advertising. Consumers can **list** their used **vehicles** for **sale**. The site **lists** about 250,000 **vehicles** for **sale**. Manheim is owned by Cox Enterprises, which also owns The Atlanta Journal-Constitution. AutoConnect (**Web** site [www.autoconnect.com](http://www.autoconnect.com)) also said it will sponsor the race car of Formula Ford 2000 driver Greg Lemond, a former champion bicycle racer.

14/3,K/16 (Item 2 from file: 713)  
DIALOG(R)File 713:Atlanta J/Const.  
(c) 2001 Atlanta Newspapers. All rts. reserv.

09306012

#### **PERSONAL TECHNOLOGY TECHNOBUDDY HUNT FOR USED COMPUTER STARTS WITH PRICES**

Atlanta Journal-CONSTITUTION (AJ-CONSTITUTION) - Sunday, November 2, 1997  
By: Bill Husted  
Section: BUSINESS Page: P/(CONSTITUTION): 01  
Word Count: 663

...the warranty is one of the most valuable parts of the deal.

I recommend that you come up with a list of specifications for the **computer** you want. Again, there are similarities with **buying** a **car**. The **accessories**, or lack of them, have a big impact on what the machine is worth. Be specific. **Make** a **list** that includes the amount of RAM you need, the size of the hard disk and the type of monitor. For a starter machine, most people...

14/3,K/17 (Item 3 from file: 713)  
DIALOG(R)File 713:Atlanta J/Const.  
(c) 2001 Atlanta Newspapers. All rts. reserv.

08757098

**NUTS & BOLTS LUBRICATION DEFECT BLAMED FOR RECALL**

Atlanta Journal-CONSTITUTION (AJ-CONSTITUTION) - Friday, September 13, 1996  
By: Compiled from staff, news service and published reports.  
Section: WHEELS Page: S/(CONSTITUTION): 02  
Word Count: 720

... OnStar emergency services communication system at \$895, plus dealer installation, and \$22.50 per month. OnStar is available on all 1997 Cadillacs except the Catera. **Computers** link your car phone to a satellite to summon police, medical or mechanical help as needed. One key feature automatically calls police in the event...

... of them rely on someone else ---mechanic or spouse ---to maintain their car. ... Toyota says it will recall an unspecified number of 1995 and 1996 **model** two- **wheel** -drive Tacoma **pickup trucks** **sold** in the United States and Canada to examine and replace front suspension brackets that can weaken and crack under heavy stress, such as extended...

14/3,K/18 (Item 1 from file: 714)  
DIALOG(R)File 714:(Baltimore) The Sun  
(c) 2001 Baltimore Sun. All rts. reserv.

10264077

**Microsoft, Ford in joint venture to sell cars online; 'Built-to-order' vehicles for motoring public; Auto industry**  
THE BALTIMORE SUN (BS) - Tuesday September 21, 1999

By: SEATTLE TIMES  
Edition: FINAL  
Section: BUSINESS  
Page: 3C

Word Count: 520

...shoppers use CarPoint to research cars, measure resale value and contact dealers for no-hassle pricing. The new service would go further, allowing consumers to **buy online** the specific car they want -- for the time being, only Ford **models**.

Shoppers will **pick** a car the way they **buy computers** directly from companies such as Dell or Compaq. Instead of choosing the size of a hard drive and the processor speed, shoppers will select among standard **car options**, such as color, number of doors and whether they want a compact-disc player.

Using Microsoft software, Ford will locate an existing car on a...

14/3,K/19 (Item 2 from file: 714)  
DIALOG(R)File 714:(Baltimore) The Sun  
(c) 2001 Baltimore Sun. All rts. reserv.

06608072

2 CHAINS PLANNING COMPUTER,ELECTRONIC SUPERSTORES TANDY WILL LAUNCH  
INCREDIBLE UNIVERSE CONCEPT IN FALL

BALTIMORE MORNING SUN (BS) - Friday, April 17, 1992

By: From Wire Reports

Edition: Final Section: Financial Page: 1B

Word Count: 505

Tandy Chairman John Roach said Wednesday that the stores will sell the largest **selection** of home and **car** electronics, **computers** and **accessories** at competitive prices.

Each store will have about 300 employees and will offer child care and restaurants. A rotunda in each store will be used...

14/3,K/20 (Item 1 from file: 735)

DIALOG(R)File 735:St. Petersburg Times

(c) 2000 St. Petersburg Times. All rts. reserv.

07643142

**LIBRARY'S AS CLOSE AS YOUR MODEM**

St. Petersburg Times (PE) - SUNDAY May 22, 1994

By: WES PLATT

Edition: CITY Section: PASCO TIMES Page: 1

Word Count: 1,100

... me a trip to the library to find out if a particular book is there and where it is. That's one of the key **selling** features about this,' Neff said. ""They've already got the card catalog on **computer** at the library. The next logical step is to put it **on -line** , so you can call from anywhere. Honestly, I'm more comfortable at a **computer** keyboard than behind the **wheel** of my **car** .''

Susan **Pickens** , Land O'Lakes High School media specialist, said she is impressed by the new system.

For several years, the high school has had computerized access...



\* File 256:SoftBase:Reviews,Companies&Prods. 85-2001/Aug

(c)2001 Info.Sources Inc

File 278:Microcomputer Software Guide 2001/Aug

(c) 2001 Reed Elsevier Inc.

Set	Items	Description
S1	1939	VEHICLE? OR AUTOMOBILE? OR AUTOMOTIVE OR (CAR OR CARS OR V- AN OR VANS OR SUV OR SUVS)/FW OR TRUCK? ?
S2	5207	ACCESSOR? OR OPTIONS OR WHEEL? ? OR OPTIONAL(3W) (EQUIPMENT OR FEATURE? ?) OR EQUIPMENT(2W) PACKAGE??
S3	11821	PREVIEW? OR VISUAL? OR TRY?(3W)OUT OR (DISPLAY? OR SHOW? OR DEPICT?) (3N) (APPEAR? OR INSTALL? OR IMAGE? ? OR PICTURE? ? OR REPRESENTATION? OR GRAPHIC OR LOOK??) OR SEE/FW OR SEEING
S4	1177	(SELECT? OR PICK? OR LIST? OR MENU? OR PULL()DOWN OR PULLD- OWN OR CHOOS? OR CHOSEN) (7N) (MAKE? ? OR VEHICLE? OR PARTS OR - WHEEL? ? OR ACCESSORIES OR MODEL??? OR STYLE)
S5	1	S1 AND S2 AND S3 AND S4
S6	4	S1(10N)S2 AND (S4 OR S3)
S7	4	S6 NOT S5
S8	8	S1(10N)S2 AND (BUY? OR SELL??? OR PURCHAS? OR SALE OR SALES OR SOLD OR BOUGHT OR (SHOPPING OR VIRTUAL) (2W) (CART? ? OR KA- RT? ?))
S9	7	S8 NOT (S5 OR S6)
?		

5/5/1 (Item 1 from file: 256)  
DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

01621722 DOCUMENT TYPE: Product

PRODUCT NAME: David's House 1.0 (621722)

Acuris 3d Graphic Design (607291)  
700 River St  
Santa Cruz, CA 95060-2748 United States  
TELEPHONE: (831) 459-6053

RECORD TYPE: Directory

CONTACT: Sales Department

David's House 1.0 offers a complete 3D model collection of a fully-furnished and landscaped 11-room colonial house with a two-car garage, and serves up to 240 intricate, pretextured models, including five sample animations and 112 seamless textures such as wood, wallpaper, paintings and fabric. Among the models are a rocking chair, curtains, pots and pans, a dining room table and even kitchen cabinets, all of which can be downloaded for use in other distinct settings. In addition to retaining their position coordinates in the house for automatic arrangement after downloading, models are categorized according to rooms, furniture and **accessories** for easy **selection**. The front-end features Acuvview, a time-saving interface that allows rendered models to be **previewed** before they are downloaded. The software supports 3DS, DXF, OBJ, COB and other formats. All models are pretextured, unlocked, royalty-free and ready-to-render.

DESCRIPTORS: Clip Art; Architects; Graphics Tools; Animation; Models;  
CD-ROMs

HARDWARE: IBM PC & Compatibles; Apple Macintosh; UNIX; Silicon Graphics  
OPERATING SYSTEM: Windows; MacOS; UNIX; Windows NT/2000; MS-DOS  
PROGRAM LANGUAGES: Not Available  
TYPE OF PRODUCT: Micro; Workstation  
POTENTIAL USERS: Multimedia Developers, Graphic Illustrators, Game  
Producers, Media Networks, Architects, Animators  
DATE OF RELEASE: 04/96  
PRICE: \$199

TRAINING AVAILABLE: Telephone support; technical support  
SERVICES AVAILABLE: Consulting  
REVISION DATE: 970423  
?

7/5/1 (Item 1 from file: 256)  
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

00123095 DOCUMENT TYPE: Review

PRODUCT NAMES: Microsoft CarPoint (717703); Autobytel.com (677761);  
CarsDirect.com (774375); carOrder.com (796051)

TITLE: The Wheel Deal: New online car-buying sites promise to drive..  
AUTHOR: Lang, Nancy A  
SOURCE: Computer Shopper, v20 n3 p192(5) Mar 2000  
ISSN: 0886-0556  
HOMEPAGE: <http://www.computershopper.com>

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

Online car referral and purchasing sites highlighted are MSN CarPoint, autobytel, cars.com, DriveOff.com, carOrder.com, and CarsDirect.com. MSN CarPoint, autobytel.cm cars.com, and DriveOff.com are referral sites, or online buying services that send an online car-shopper's request to a dealer who will quote a price. These services work with a national network of dealers and send the request to a local dealer. They save time and legwork and can increase competition among quoters. CarsDirect and carOrder.com can reduce dealer overhead by providing an instant, no-haggle price quote and the ability to complete the purchase. Such sites can reduce or totally eliminate time spent on the showroom floor and can save purchasers money. CarsDirect is backed by Michael Dell of Dell Computer, who personally invested \$10 million. Goldman Sachs Group, Foundation Capital, idealab Capital Partners, and Primedia Ventures have also contributed a total of \$20 million. CarsDirect.com gives consumers a price, buys a car from one of the dealers in its national network, and resells the car to the consumer at a profit. Buyers can apply for financing through Bank One. The DirectAssist program provides roadside assistance and extended vehicle service agreements. Testers conducted a price comparison test for a 2000 BMW Z3 2.3 roadster and found carOrder.com had the lowest price. However, carOrder.com, whose planned but not implemented model requires the user to **pick** up the car from a dealer in most states, has no dealers signed up and actually operates under a model similar to CarsDirect.com's.

COMPANY NAME: Microsoft Corp (112127); autobytel.com Inc (637785);  
CarsDirect.com (669431); carOrder.com Inc (678988)  
SPECIAL FEATURE: Charts Tables Screen Layouts  
DESCRIPTORS: Internet Shopping; Automobile Dealers  
REVISION DATE: 20000630

7/5/2 (Item 2 from file: 256)  
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

00117644 DOCUMENT TYPE: Review

PRODUCT NAMES: MSN Expedia Travel (636568); Biztravel (715182);  
Travelocity (669725); Atevo (760421); TheTrip.com (729868)

TITLE: Booking Travel on the Web with Reservations  
AUTHOR: Martin, James A  
SOURCE: PC World, v17 n6 p211(7) Jun 1999  
ISSN: 0737-8939  
HOMEPAGE: <http://www.pcworld.com>

RECORD TYPE: Review  
REVIEW TYPE: Review

GRADE: A

Microsoft's Microsoft Expedia, Sabre Group's Travelocity.com, and Biztravel.com's Biztravel are a few good travel sites, out of several, that provide travel bookings with reservations on the World Wide Web. MSN Expedia is an excellent travel site with a clean, easy-to-use interface. It provided the best fares, whether it was for a short-notice flight or a cheap flight, planned ahead of time. Microsoft Expedia and Biztravel allow customers to make changes by calling live travel agents through a toll free number. Biztravel has a lot of information, and is very helpful and fast. It specializes in booking for traveling business executives, providing them with their flight, hotel, and car reservations all at once. Travelocity offered the greatest number of search **options** such as types of rental **cars** desired and the features included. Travelocity.com's Best Fare Finder allows users to choose an itinerary and then displays the lowest fares. It also provides a calendar highlighting dates that satisfy that fare's restrictions. Other travel sites worth checking out, for one feature or another, are Reservation Desk at CNN.com, **Preview** Travel, TheTrip.com, and Internet Travel Network's Atevo. A cool feature offered by some travel sites is the ability to view a graphic of the cabin, and click on a seat to reserve it.

COMPANY NAME: Microsoft Corp (112127); Biztravel.com (650102);  
Travelocity.com (634018); GetThere.com Inc (637891); TheTrip.com Inc  
(655279)

SPECIAL FEATURE: Screen Layouts Charts Tables

DESCRIPTORS: Travel; Internet Travel; Reservation Systems; Information  
Retrieval; Recreation & Hobbies

REVISION DATE: 20010625

7/5/3 (Item 3 from file: 256)

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

(c)2001 Info.Sources Inc. All rts. reserv.

00117386 DOCUMENT TYPE: Review

PRODUCT NAMES: **Driver** Preview (758795)

TITLE: **Driver**

AUTHOR: Osborn, Chuck

SOURCE: PC Accelerator, v10 p62(2) Jun 1999

ISSN: 1521-7795

HOME PAGE: <http://www.pcx1.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

GT Interactive's **Driver** promises to be an exciting, if slightly over-the-top, driving action game when released in September 1999. **Driver** originated as a PlayStation game, to be ported to PC, which worries the reviewer some. The game allows users to play the part of an undercover cop who is involved in car chases with criminals. A variety of vintage 70s-era muscle cars can be selected from. Users will notice the excellent graphics first. In addition to the cars, the designers photographed New York, Miami, San Francisco, and Los Angeles, and used the photography to design the game's city graphics. Currently, players must use the keyboard to steer their **cars**, but the designers may include driving **wheel** and gamepad support in future versions. The game's physics engine was found to be uneven, with some actions looking realistic while others were somewhat exaggerated, with cars flying over buildings during crashes.

COMPANY NAME: GT Interactive Software Corp (619515)

SPECIAL FEATURE: Screen Layouts

DESCRIPTORS: Games; Action Games; IBM PC & Compatibles

REVISION DATE: 19990930

7/5/4 (Item 1 from file: 278)  
DIALOG(R) File 278:Microcomputer Software Guide  
(c) 2001 Reed Elsevier Inc. All rts. reserv.

0009095

0009095XX STATUS: ACTIVE ENTRY

**TITLE: Binary Phase Equilibria Curve Fitting**

COMPATIBLE HARDWARE: IBM PC family and compatibles; Apple II Series,  
Iigs

MICROPROCESSOR TYPE: Free hotline - no time limit; 30 day limited  
warranty; updates are \$5/disk plus S&H

OPERATING SYSTEM(S) REQUIRED: MS-DOS

PRICE INFORMATION:

Diskette 99.95

MANUAL AVAIL.

ANNOTATION: Fits Empirical Curves to Sparse Binary Vapor-Liquid  
Equilibrium Data at Constant Moderate Pressure in Order to Permit  
Interpolation or Extrapolation. The Empirical Models Available for the  
Calculation of the Activity Coefficient Are the Margules, Van Laar, &  
Wilson Functions. Vapor Pressure Options Include the Wagner & Antoine  
Equations, or Raw Vapor Pressure Data. Means Are Provided for Easy  
Recalculation Based on Different Data Points & Different Models. Graphic  
Displays Allow Comparison Between the Fitted Model & Data

DESCRIPTORS: ENGINEERING AND SCIENCE - CURVE FITTING

DESCRIPTOR CODES: 10002704

PUBLISHER: Dynacomp, Incorporated; Dynacomp (1-55697)

ADDRESS: 4560 E. Lake Rd.

Livonia, NY 14487

TEL.: 716-346-9788

SAN: 265-8895

?

9/5/1 (Item 1 from file: 256)  
DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

01678091 DOCUMENT TYPE: Product

**PRODUCT NAME: ITN FlightRez (678091)**

GetThere.com Inc (637891)  
4045 Campbell  
Menlo Park, CA 94025 United States  
TELEPHONE: (650) 752-1500

RECORD TYPE: Directory

CONTACT: Sales Department

ITN FlightRez (TM) is Internet Travel Network's turnkey reservation system designed for airline companies. Carriers such as United Airlines use ITN FlightRez to improve their **sales**, reduce their reservation costs, retain customers, and increase their presence on the World Wide Web. ITN FlightRez is easily customized to fit a particular airline's needs; ITN-based sites are often up and running in as little as two months. ITN FlightRez can be easily integrated with legacy reservation systems and customer loyalty systems. Customers can check the status of their frequent flyer or other loyalty program accounts online, even redeeming their travel rewards online. New customers can register online for the airline's loyalty program. ITN FlightRez enables airlines to offer special Web-only deals, which can be distributed to customers. ITN FlightRez lets carriers customize online customer care **options**, and they can also choose the partners (**car** rental companies, hotels, etc.) they wish to work with.

DESCRIPTORS: Internet Travel; Travel; Reservation Systems; Airline Industries; Recreation & Hobbies

HARDWARE: Hardware Independent  
OPERATING SYSTEM: Operating System Independent  
PROGRAM LANGUAGES: Not Available  
TYPE OF PRODUCT: Mainframe; Mini; Micro; Workstation  
POTENTIAL USERS: Travelers, Airlines  
PRICE: Available upon request

REVISION DATE: 991103

9/5/2 (Item 2 from file: 256)  
DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

00127875 DOCUMENT TYPE: Review

**PRODUCT NAMES: Virtual Advisor (031704); Communiport Mobile Productivity Center (028274); CA-Unicenter (359424); Bluetooth (841455)**

**TITLE: Cars Will Let Motorists Drive and Surf: Auto industry is betting...**  
**AUTHOR: Wallace, Bob**  
**SOURCE: Information Week, v819 p109(2) Jan 8, 2001**  
**ISSN: 8750-6874**  
**HOME PAGE: <http://www.informationweek.com>**

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

General Motors' Virtual Advisor, Delphi Automotive Systems' Communiport Mobile Productivity Center, Computer Associates International's CA-Unicenter, and Bluetooth SIG's Bluetooth are highlighted in a discussion of the auto industry's promotion of 'communication platforms' in new cars.

Automakers and infrastructure providers believe that customers will soon want many communication devices in their cars, including hands-free, voice-activated phones; wireless Internet access; and location-based services. According to a research company executive, future cars will offer wireless, Internet, and entertainment services, and automakers will respond with products that differentiate their vehicles and make them safer. OnStar, which emerged in 1996, is an early example, but GM will add more services, including Virtual Advisor, which offers voice-enabled Internet access and retrieval of e-mail through the OnStar.com portal. One research firm forecasts that 84 percent of new cars sold in 2005 will have available telematics as optional or standard equipment. Delphi is working with Palm and Ericsson to finish designing and building a plug-in system called Communiport Mobile Productivity Center, which merges a cell phone and personal digital assistant (PDA) to provide no-hands access to Palm V device-accessible data. Bluetooth will enable in-car wireless networks and provide a backbone data network to link all wireless devices.

COMPANY NAME: General Motors Corp (679011); Delphi Automotive Systems (692531); Computer Associates International Inc (081957); Vendor Independent (999999)  
SPECIAL FEATURE: Graphs  
DESCRIPTORS: Wireless Networks; Automobile Manufacturing; Wireless Internet Access  
REVISION DATE: 20010430

9/5/3 (Item 3 from file: 256)  
DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

00117455 DOCUMENT TYPE: Review

PRODUCT NAMES: Redline Racer (738328)

TITLE: Redline  
AUTHOR: Williamson, Colin  
SOURCE: PC Gamer, v6 n6 p152(1) Jun 1999  
ISSN: 1080-4471

RECORD TYPE: Review  
REVIEW TYPE: Review  
GRADE: B

Accolade's Redline Racer (sold by Ubi Soft) is an exciting game of racing and vehicular combat. The game was developed by Beyond Games, which has a pedigree dating back to the late 1980s with its Battle Wheels, a popular Atari Lynx game of the era. Players drive automobiles in a post-apocalyptic world in which gangs of homicidal drivers duke it out for the pleasure of the remaining super-rich. Also present are Red Sixers, nasty little enemies that navigate their way through the chaos on foot. In fact, the game can be played either behind the wheel, or on foot, though the author says that players on foot will most likely be destroyed quickly. The game's controls are at first tricky, and will need to be modified for individual players. Also, Redline's artificial intelligence is at times faulty, and some of the computerized foes do not act realistically. The game's humorous asides are pleasing, including its funky voices and wacky situations, such as when a Red Sixer sings 'Kumbayah' over a captured radio station. All-in-all, a good shoot-em-up game with 'fast-paced' carnage.

COMPANY NAME: Ubi Soft Inc (617415)  
SPECIAL FEATURE: Screen Layouts  
DESCRIPTORS: Action Games; Games; IBM PC & Compatibles  
REVISION DATE: 19990830

9/5/4 (Item 4 from file: 256)  
DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

00114280 DOCUMENT TYPE: Review

PRODUCT NAMES: Internet Shopping (840432)

TITLE: Leave the Mall Behind!

AUTHOR: Gralla, Preston

SOURCE: FamilyPC, v6 n2 p54(7) Feb 1999

ISSN: 1076-7754

HOME PAGE: <http://www.family.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

The way to avoid long lines and crowded parking lots is to shop online for a number of conveniences, such as groceries, clothing, **automobiles**, and even houses. Grocery-shopping services must have good delivery **options** and, of course, good prices. Clothing services must adhere to a flexible return policy, which is not as automatic as many shoppers in traditional retail outlets have come to expect. Also, sites with detailed photos of clothing and useful size charts are preferable to those without these services. House-hunting Web sites can save **buyers** hundreds of dollars if well-implemented. **Buying** a car online is becoming more and more commonplace, with many price-comparison features and payment arrangements in order to get financing available.

COMPANY NAME: Vendor Independent (999999)

SPECIAL FEATURE: Charts Tables

DESCRIPTORS: Internet Marketing; Retailers; Internet Shopping; Groceries; Catalogs; E-Commerce

REVISION DATE: 20010430

9/5/5 (Item 5 from file: 256)

DIALOG(R) File 256:SoftBase:Reviews,Companies&Prods.

(c)2001 Info.Sources Inc. All rts. reserv.

00111569 DOCUMENT TYPE: Review

PRODUCT NAMES: Business Planning (839256)

TITLE: Computer Systems According To Plan

AUTHOR: McCollum, Tim

SOURCE: Nation's Business, v86 n8 p44(5) Aug 1998

ISSN: 0028-047X

HOME PAGE: <http://www.nbmag.com>

RECORD TYPE: Review

REVIEW TYPE: Product Analysis

GRADE: Product Analysis, No Rating

Caster Technology, a maker of casters, **wheels**, and hand **trucks**, uses sophisticated information systems with a bleeding-edge telecommunications network that connects the factory to distribution warehouses in three U.S. locations. The network significantly increases the manufacturer's timeliness and productivity; while providing a technological foundation for business expansion. The network lowers communication costs by allowing staff to communicate well without using a long-distance carrier. Much preplanning was done before an overall plan that links technology acquisition to business expansion objectives emerged. Other small firms could also be as organized in their **purchases** of technology, a practice that would greatly benefit their ability to expand and succeed. Rather than considering technology an expense, small companies should consider it an investment, and should make long-term plans before **purchasing** hardware, software, and services. They should also obtain the expertise required to make educated decisions about technology acquisition. Research indicates that investments in IT are directly proportional to increased productivity,



realized as lower costs and increased profits. Various experts, including users, describe how small businesses can benefit from technological savvy.

COMPANY NAME: Vendor Independent (999999)  
SPECIAL FEATURE: Charts  
DESCRIPTORS: Business Planning; Manufacturing; Small Business;  
Telecommunications; Computer Telephony  
REVISION DATE: 20010630

9/5/6 (Item 6 from file: 256)  
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

00102133 DOCUMENT TYPE: Review

PRODUCT NAMES: CompuServe (493023); America Online (281565)

TITLE: Online car buying isn't auto-matic yet  
AUTHOR: Weston, Randy  
SOURCE: Computerworld, v31 n20 p53(2) May 19, 1997  
ISSN: 0010-4841  
HOMEPAGE: <http://www.computerworld.com>

RECORD TYPE: Review  
REVIEW TYPE: Product Analysis  
GRADE: Product Analysis, No Rating

CompuServe and America Online both provide an online version of 'Consumer Reports,' but users without subscriptions can get car-shopping help by logging on to one of several car **buying** services accessible through Auto-By-Tel's World Wide Web site. Users can get to Edmunds Automobile **Buyers** Guide and Microsoft's CarPoint, and another available site provides the Kelly Blue Book, which provides validation of autos' values. Edmunds classifies cars as either new or used, and then categorizes them according make, model, and year. The site is easy to navigate, and provides helpful, detailed information, including photos of cars. CarPoint provides a similar site. Edmunds provides descriptions of features, performance, and trunk space, and a calculator is provided to allow users to punch in numbers and generate an equitable price for a **car** based on the manufacturer's suggested retail price and **options**. However, the **car**'s dependability and mechanical history are not described in either the CarPoint or Edmunds online directories. When users determine the car they want, they can be linked from either guide to Auto-By-Tel, which connects **buyers** to the nearest dealer stocking the model desired. Testers found the portable hard copy of the '1997 Consumer Reports Car **Buyers** ' Guide' to be the most useful reference for real car shopping.

COMPANY NAME: Compuserve Inc (016969); America Online Inc (461857)  
DESCRIPTORS: Information Retrieval; Internet Marketing; Personal Finance;  
Automobile Dealers; Portals; Internet Service Providers  
REVISION DATE: 20010430

9/5/7 (Item 7 from file: 256)  
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.  
(c)2001 Info.Sources Inc. All rts. reserv.

00073562 DOCUMENT TYPE: Review

PRODUCT NAMES: Automania Windows (545724)

TITLE: Automania  
AUTHOR: Firme, Matthew  
SOURCE: CD-ROM Today, v3 n1 p91(1) Jan 1995  
ISSN: 1069-4099

RECORD TYPE: Review

REVIEW TYPE: Review  
GRADE: A

Automania for Windows, a CD-ROM resource containing consumer information for new and used **cars**, lists features and **options** for most new **cars**, including Lotus and Ferrari models. Pictures are provided for each model, and some video shows the cars in motion. The CD-ROM also provides hundreds of dealer invoice prices for each model, which saves prospective **buyers** money on quote fees otherwise available from online services or magazines. Search functions could be better, however, and the interface is not particularly user friendly. Performance is slow, although the minimum system required is a 386 with 4MB random access memory (RAM). All in all, Automania for Windows is a good **buy**, and it is recommended for all savvy auto shoppers.

PRICE: \$50

COMPANY NAME: Cornerstone Publishing (600377)  
SPECIAL FEATURE: Screen Layouts  
DESCRIPTORS: CD-ROMs; Content Providers; Information Retrieval; Windows;  
IBM PC & Compatibles  
REVISION DATE: 20000830

"In addition to providing a full-feature 3D plug-in for the most popular Web browser today, IDS's future product plans...

9/3,K/13 (Item 10 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2001 The Gale Group. All rts. reserv.

04182354 Supplier Number: 46109811  
**Computer shopping for custom wheels**  
Modern Tire Dealer, p32  
Feb, 1996  
Language: English Record Type: Abstract  
Document Type: Magazine/Journal; Trade

ABSTRACT:

**Software** which allow customers to **select wheels** to their **vehicles** via **computer** screen are being used by more and more car dealers. Softwares such as the Vehicle Design Center (VDC) of **Visual Reality** (Lithonia, GA) and **Virtual Point Development's** (St Louis, MO) **Softwheels** enable customers to view and **select** various **wheel** designs from different manufacturers, eliminating the need for salespeople to hold up the wheels to let customers **see** what they look like on the **vehicle**. The program lets customers click their desired **selection** on to the **vehicle** on the screen. The VDC **software** features an 80-vehicle **database**, while **Softwheels** has more than 200 **vehicles** and 190 **wheel** designs. ...

9/3,K/14 (Item 11 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2001 The Gale Group. All rts. reserv.

03722327 Supplier Number: 45276523 (USE FORMAT 7 FOR FULLTEXT)  
**MERCEDES-BENZ VIRTUAL SYSTEM HELPS SELECTION OF A NEW CAR**  
Computergram International, n2585, pN/A  
Jan 20, 1995  
Language: English Record Type: Fulltext  
Document Type: Newswire; Trade  
Word Count: 267

(USE FORMAT 7 FOR FULLTEXT)

TEXT:

Mercedes-Benz AG is planning to use a **virtual** reality system to help customers decide which new car model to buy. It says the Cyberspace system will help the customer of the future to take the first test drive of his new vehicle by wearing a monitor helmet that will replicate actual conditions. The **computer** automatically follows any head movements and transmits the corresponding **images** to the helmet **display** unit to give the tester the impression of sitting behind the **wheel** of a real **car**. By using a data glove that is linked to the **computer**, the driver can operate functions on the imaginary instrument panel. The research project, based in Berlin, is using hardware from Silicon Graphics Inc - a Power Series 4D/440 Reality Engine and an Indy machine. The **software** is being developed by Berlin-based **software** specialist Art & Comm GmbH, which is working closely with Mercedes-Benz on the project. The image seen in the headset runs at only five to...

...not yet interactive, but will be ultimately, Mercedes-Benz says. The company was not clear on exactly how the system will help the driver to **select** a different **model** of car, since the type of seat covering and the colour of the car will be that of the simulator rather than the car itself ...

9/3,K/15 (Item 12 from file: 16)  
DIALOG(R)File 16:Gale Group PROMT(R)  
(c) 2001 The Gale Group. All rts. reserv.